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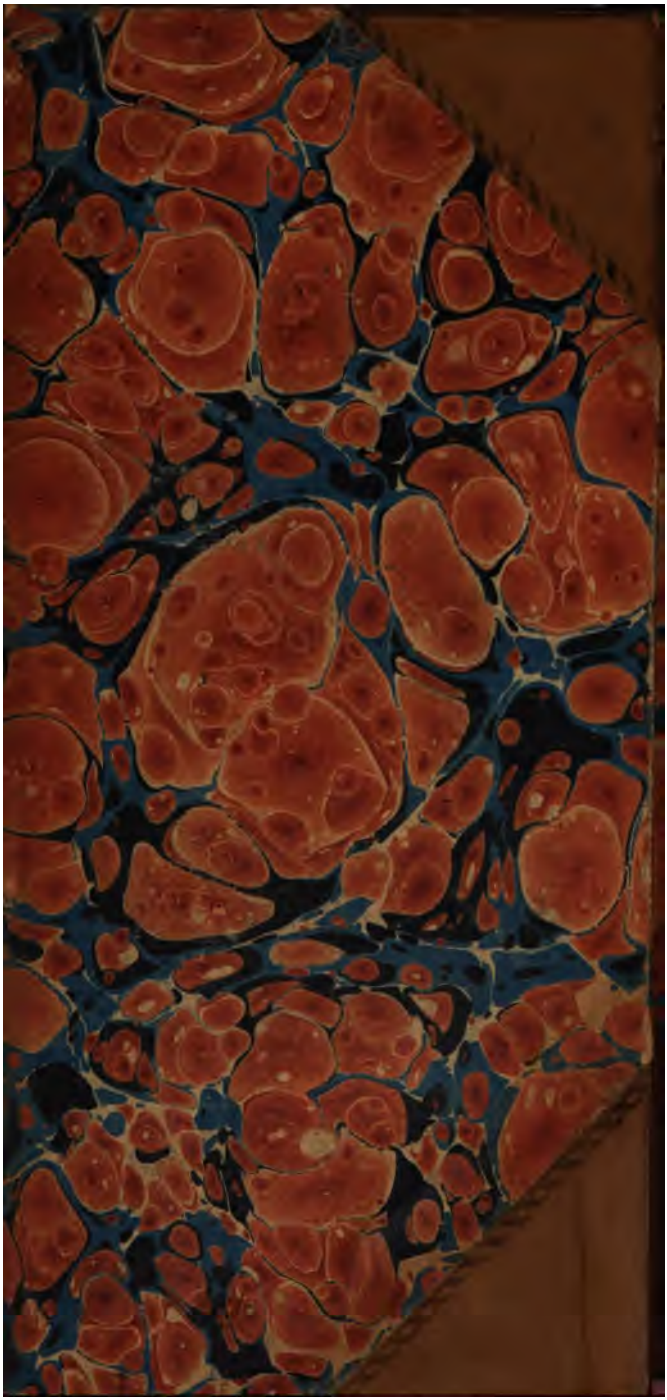

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THE

MILITARY AND NAVAL

MEDICAL REFERENCE BOOK.

THE

MILITARY AND NAVAL

MEDICAL

REFERENCE BOOK;

CONTAINING

DIRECTIONS TO YOUNG MEDICAL MEN, AND THE RESPONSIBLE HEADS OF MILITARY DETACHMENTS AND SHIPS' CREWS, HOW TO DISCRIMINATE AND TREAT DISEASES INCIDENT TO EUROPEANS IN DIFFERENT COUNTRIES, AND HOW TO PRESERVE AND RESTORE THE SICK AND WOUNDED.

BY W. BREWER, M.D.

FELLOW OF THE ROYAL BOTANIC SOCIETY, ETC., ETC.

"Atque ipsa utilitas, justi propè mater et æqui."—Horace.

LONDON:

H. SILVERLOCK, WARDROBE TERRACE, DOCTORS' COMMONS.

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PREFACE.

The object of this little book is to afford information to officers, entrusted with detachments of men, or ships' crews, respecting the nature and treatment of diseases incident to Europeans in foreign climates.

Ample directions are given relative to the BITES OF SERPENTS, the method of ascertaining whether the reptile, inflicting the bite, possessed poison-fangs, or not, and the means to be employed in either case.

WOUNDS, DISLOCATIONS, AND FRACTURES are treated separately and with all regard to clearness and simplicity.

The symptoms, causes, results and treatment of Tropical Fevers have been detailed with the view of rendering them easy to discriminate, and manageable by any man who has but the patience to read and firmness to act up to the directions given.

The work has been divided into Three Parts, with a short Appendix.

The First Part treats of diseases of the skin, and wounds.

The Second Part treats of diseases of the eye, diseases and wounds of the face, injuries to the head, wounds, diseases of various parts of the body, vene-

real diseases with their multiplied consequences, dislocations, fractures, sprains and bruises.

The Third Part may be termed purely medical, and treats of Tropical fevers, inflammations of the internal structures of the body, rheumatic and gouty affections, dropsy, gravel, fevers of cold climates and the like.

The Appendix is devoted to directions about suspended animation. The method of detecting poisons in fluids, or food, and their antidotes: an easy and economical process of preparing various medicines is added.

The commanders of detachments of men and ships' crews are often in a position in which the lives of those committed to them may be saved, or must be sacrificed, in exact proportion to their knowledge, or ignorance of remedies suited to the emergencies.

It is nothing new, or unheard of for the officer to be priest and physician to his men; and the more respected he is, the more his judgment and directions are awaited and relied on.

To those medical officers who are recently appointed, as well as to the military and naval commanders in Her Britannic Majesty's service this little work is addressed, in the hope that it may not prove unacceptable as a 'Book of Reference.'

ON THE

ART OF WRITING MEDICAL PRESCRIPTIONS.

The object of a medical prescription is to convey in a safe and convenient form the remedy suited to meet the disease you are called to prevent, modify, or destroy.

A regard must be had to the age, sex, temperament, peculiarities, habit, and mode of attack which the case presents.

AGE.—As a general rule, a middle aged man requires one-third more to produce the effect desired than a youth from sixteen to twenty-one. A youth from ten to fifteen requires but half the dose of the middle-aged man. A child from four to seven years old, but one-third : one, four years old, one-fourth; three years old, one-sixth; two years old, one-eighth; one year old, one-twelfth.

N. B.—This rule is not universal, for a child one year old requires, often, a larger dose of calomel than an adult. And tartarized antimony may be given, with great advantage, in nine-tenths of the diseases of children, in doses as large as will stay upon the stomach of a full-grown man.

SEX.—Male and female present such differences of constitution, that often medicines given with advantage to the male induce disease in the female, and *vice versa*.

TEMPERAMENT signifies a predisposition, from natural conformation, to be more easily affected by medicines and external causes generally. We do not doubt the existence of some subtle essence in the rose, or violet which gives the odour to the flower, although we are unable to extract or retain it; neither can we doubt the reality of the existence of the *temperament*, which so marvellously modifies

the action of remedies, although it has hitherto baffled sages to define and explain it. The nervo-sanguineous temperament suffers incomparably more from the action of a blister, or a strong cathartic dose, than the phlegmatic and cold-blooded. There is no doubt but that the skin of a thorough-bred horse is more sensitive than the skin of the plough-horse and English donkey; at least as great is the difference of temperament in men; and he who disregards it would make a better beast of burden than a physician.

PECULIARITY called *Idiosyncrasy*. This is a disposition to be acted on by certain foods, or medicines different from mankind generally. Thus an egg causes some men pain and protracted sickness; the smell of a wall-flower occasions others to faint. The same may be observed with regard to some particular drug, the smallest portion may occasion convulsions in one man, although the generality of men suffer no inconvenience from its administration.

HABIT.—By this we mean the practice of taking medicine, which, generally, diminishes its effect, especially of sedatives and stimulants. When disease has been produced (by their use) the system may be weakened and the reverse may be observed.

DISEASE, OR MODE OF ATTACK.—In the introductory observation upon Tropical Fevers, notice is taken, in page 210, of the want of susceptibility which the body, labouring under severe fever, displays to the action of medicines.

It might be laid down as a rule, that the greater the variation of the body from the healthy standard, the more obvious is the interference to the action of the remedy.

Doses which in health would destroy life, in sickness destroy only the disease. But much knowledge is requisite to judge the exact modification which the mode of attack requires. By far the most important thing is, to ascertain the seat, state and nature of the disease.

For farther information on this subject, see Dr. Murray's work on Pharmacy, 6th edit. page 854.

MILITARY AND NAVAL

MEDICAL REFERENCE BOOK.

PART I.

Sect. 1.—Inflammation.

THIS is a very hard word and may be made, to the professional as well as layman, a labyrinth whose course and termination it appears hopeless to explore; but in as much as all the diseases and accidents, to which the human frame is liable, are said either to be occasioned by, or accompanied with inflammation in some of its numerous characters; it is required that, in a book purporting to give simple directions for many disorders and accidents, something should be said of this affection.

The word inflammation conveys no direct idea of the thing signified; but probably, in company with numerous titles of men and things, is used figuratively; it is meant to express the pain, redness, swelling,

and sensation of HEAT which ordinarily characterize its presence.

Every altered action of the blood-vessels has been termed "INFLAMMATION;" it will be sufficient for this work however to allude only to such a division of this subject as may be most useful to those to whom it is addressed, and such as may, by all, be most easily comprehended: and first, mention must be made of LOCAL; secondly, of GENERAL inflammation.

LOCAL INFLAMMATION is ordinarily known by the increased redness, hardness or tightness, throbbing, heat and pain which is felt in the affected part.

The result of all these disordered appearances will be either that the symptoms will abate and leave the part healthy:

Or that matter will be collected in, or about the part, in which case the throbbing will greatly increase:

Or that a hardness and swelling will remain for an uncertain length of time:

Or that it will degenerate into an open sore or ulcer:

Or that it will mortify and destroy the part, and most probably terminate the life of the sufferer.

Instances of local inflammation are

Inflammation of the eye, ear, hand; small, painful elevations on the skin (as biles or carbuncles), rose or erysipelas, sores or ulcers, swellings and pains from falls, bruises, burns, filth, wounds, or venereal diseases.

GENERAL INFLAMMATION, which is said most commonly to attack people in the prime of life and in full vigour, is known by the state of the pulse, the fever, the restlessness, the increased rapidity of breathing, the wandering of the intellect, the anxious look of the

face, especially of the eye, and often the languor, lowness of spirits and sense of debility.

A few instances of general inflammation are those of the brain, bladder, bowels, liver, lungs and frequently skin eruptions.

More information upon this subject will be found when the various diseases and accidents shall be referred to upon which directions are herein given.

Sect. 2.—Inflammation of the Skin.

The true skin, which is full of pores and supplied with countless thousands of blood-vessels and nerves, is not only adapted for the numerous purposes of feeling, but also for perspiration, absorption, and probably a limited respiration:

Thus traversed in every direction with tubes conveying blood, it is to be expected that the skin would be liable to some perverted action in some of these million vessels; this we designate inflammation; and thus possessed of exquisite sensibility, whence results much pleasure, when the apparatus of vessels and nerves acts healthily, we must expect that much pain would be experienced when this apparatus becomes disordered: We see clearly then how PAIN is a sign, or symptom of inflammation.

Lastly. The blood-vessels are very numerous and although so small, that individually their enlargement would seem hardly sensible, yet the aggregate of their enlargements occasions considerable tumifaction: in addition to which they discharge, through their coats, quantities of fluid into the adjacent tissues, or soft

parts, which increase the swellings already occasioned by their increased size : thus we see how SWELLING is a sign, or symptom of inflammation.

Considering the extent of the skin, its texture and important offices, or functions we are prepared to expect that it would afford emphatic indications, or symptoms of almost all the diseases to which the body is obnoxious; and that it would be the book, perhaps difficult to be read, containing valuable information of the state of health to every persevering peruser.

The body must be regarded as a whole, each part sympathizing with the other; and thus, although a divided interest in the individual members would be contrary to the order of nature, still the great representatives of the body's health will, in virtue of their office, express its complaints in a livelier degree. The skin must be deemed one of these representatives. We must indeed regard the skin as far more frequently, by its disordered state, indicating a general derangement of the body, or of some vital internal organ, than of any local disease.

It is not to be concluded thence that the skin is not liable to acute, or long standing disease which may produce general ill health ; for most certain it is that neglect of cleanliness, contact with noxious matter, and other exciting causes, acting on the skin primarily, produce painful skin disorders and often fatal general disease. An instance of the first is chimney-sweeper's cancer, produced by soot; and of the last, fevers caught by exposure to malaria.

It is well known how liable people are to severe

sore throats and colds from a very slight, or casual exposure of the body to the night breeze; especially in southern climates in a clear, bright, dry evening, when evaporation from the skin is very rapid and but a slight gust of wind will arrest, for a minute or two, the healthy action of the vessels on the surface of the body. Naval and military commanders should always bear in mind that the skin is like the heel of Achilles; many of the hardiest men have, in repose, received fatal injury, to their constitutions, through a neglect of protecting it. A clean skin is to the body, what clean hands are to the soul, a great preserver of peace, health and happiness.

Sect. 3.—Erysipelas or Rose.

Two kinds must be described.

The first, Spontaneous Erysipelas;

The second, Accompanying Wounds.

The first commences by a bright redness of the skin, which burns and itches: by pressing the part gently with the finger it becomes pale, but, on the removal of the pressure, soon regains its red tint.

The face, head, legs, ankles, and loins, are most frequently the seat of this disease; but it has a very wandering disposition; it is known to terminate abruptly in one part of the skin and settle in another; or, what is even more serious by far, it is often repelled from the surface of the body and flies to the deep-seated organs, as the bowels, lungs, or brain, and then, most frequently, destroys the patient.

More or less general derangement will be found,

almost invariably, to precede and accompany erysipelas.

Violent paroxysms of passion have been known to produce an attack, and much indulgence in ardent or spirituous drink predisposes to the disease, and augurs most unfavourably for a recovery.

A bitter taste in the mouth, a dry skin, hard pulse, and great thirst are ordinary symptoms of the disease in all its stages.

The many names given to this disease may be accounted for by the variety of appearances which mark its origin, course, and termination.

Sometimes the inflamed part has a yellow tinge and many signs of jaundice are displayed; thence originated the name of BILIOUS erysipelas. Sometimes the inflammation is peculiarly active and painful, thence came the name of ACUTE erysipelas. Sometimes it is confined to a small portion of the skin; thence called LOCAL erysipelas. Very often the textures beneath the skin participate in the disease to which the name of PHLEGMONOUS erysipelas (rose tending to supperate, or form matter and abscesses) is applied.

Within the last twelve years this disease has assumed a most violent and contagious character, and has proved, at times, a severe scourge in poorhouses, prisons, and hospitals; especially where numbers of sick are crowded together, and cleanliness and proper ventilation not sufficiently enforced: thence it received the name of hospital erysipelas.

It is common, after the inflammation has abated, for the vessels to throw out much watery fluid, and if

this has been lodged beneath the skin, on pressure from the finger upon the part, it sinks; on removing the finger a slight pit is left which gradually fills up. this gives the name of œdematous, or fluid-puffed to the erysipelas: but when the fluid is lodged between the true skin and the superficial, or scarf skin, blisters arise resembling those produced by a scald, and these blisters, which are technically called vesicles, have given to the disease, in this stage, the name of vesicatory, or waterbladder erysipelas: when however the inflammation terminates in gangrene, or mortification it is called gangrenous: when it takes a fatal form, or any malignant turn it is named malignant erysipelas.

These names are not without great use and are therefore mentioned, because they mark most distinctly, the appearances observed to result from, or which accompany this common disease.

It is mostly those who desire to make a show of learning, without undergoing the labor necessary to its acquisition, who grumble most loudly about hard names: the peculiar name is learned involuntarily when the disease is studied and interests duly the attention.

THE TREATMENT OF *Spontaneous* ERYSIPELAS. —Great regard must be had to the *habits* and *constitution* of the patient, and the stage at which you find the attack.

In a strong man, and at an early period of the disease, where the inflammation is not very extensive, but where the tongue is foul, loaded with a yellowish

brown fur; and a sense of nausea, and offensive taste in the mouth is complained of; a yellowish tinge appearing in the whites of the eyes and over the skin generally, it would be proper to give thirty grains (half a drachm) of simple ipecacuanha powder and one of tartar emetic (tartarized antimony) in a table spoonful of warm water, and wash it down with a tumbler or two of the same.

By this dose the contents of the stomach will be emptied by vomiting. As soon as sickness has ceased, fomentations of warm water in flannels are to be applied for an hour, and subsequently, at the expiration of a couple of hours, five grains of calomel with ten of the compound extract of colocynth may be given; to be succeeded in four or five hours by an effective black draught.

If the symptoms abate, powder the part with hair-powder, or flowers of zinc, and repeat the pills and draught every night and morning for a week.

Diet.—Barley water and gruel.

Observations.—(*a*) Should the inflammation increase, or should it from the first appear acute and very severe; take a clean lancet, hold it just above the termination of its cutting edges, and rapidly and without fear prick deeply the inflamed part from twenty to thirty times, passing the lancet at least half up the spear-like point (about half an inch deep.) Let all the punctures be in one direction, and that of the folds of the skin and not across the folds; these being in the course of the fibres of the flesh will heal sooner, scar less, and produce less pain and smarting.

Blood and fluid will pour out freely, assist their discharge by fomenting the part with flannel bags, containing camomile flowers, which have been dipped in hot water, continue their application for three quarters of an hour, or till the blood flows very feebly. Then open the bowels with the medicine above prescribed.

If this cannot be done leeches must be made to supply the place of the punctures. It is a misconception that leeches increase the inflammation *when properly applied;* for this end they must be put on in bundles, or batches of ten or twelve each batch—and let each batch be at a distance as far as can be from the other. Afterwards foment and give medicine as above directed.

(*b*) But should the erysipelas assume the character described as *phlegmonous*, that is, should it involve the parts seated beneath the skin, and should it go on forming matter or pus, the skin must be laid open with a knife and the whole extent of the quaggy part fairly exposed by a deep incision.

Filthy matter mixed with blood will be let loose, and the part must be involved in a poultice made of linseed meal and boiling water.

The state of the patient will be very different from that of the man afflicted with the last mentioned form of erysipelas:—The pulse will be feeble, the flesh flabby, the cheek perhaps hectic, and much emaciation will appear.

In this case the bowels must be gently relieved with half grain doses of calomel and ipecacuanha twice

a day, succeeded by half an ounce of castor oil in the morning, if required.

The strength must be supported with animal food, porter, or a little port wine; sometimes gin and water may be given with advantage.

When the discharge of matter has ceased the part must be treated as a simple sore—then bring the skin gently together with straps of adhesive plaster and put on a bandage.

Good air, cleanliness in person and position are important helps.

(*c*) Should the inflammation suddenly leave one part of the body and fly to another, you must follow it thither, if you can, with the same treatment, or even more active.

CAUTION.—Sometimes by cold applications the attack is repelled from the surface to the brain, or other important internal organ, and the patient is inevitably lost if, by some means or other, it cannot be brought back to the surface which it had quitted. Mustard poultices, or a stream of boiling water, or a red hot iron may be applied to the part of the skin with this view.

This should suffice to caution against the use of such remedies, in the treatment of erysipelas, as are calculated to produce a change of this nature. The inflammation of the skin must not be merely locally treated, certainly not with repellants; and to cover the skin with flour or powder, merely to hide the redness from sight, is worse than idle quackery.

(*d*) Where erysipelas occurs, in a patient weakly

and exposed to unwholesome air and employment, it is often accompanied with low, continued fever. And old men who have been addicted to hard drinking, and have thereby debilitated their constitution, will shew symptoms of typhus with an attack of erysipelas.

From the first these cases require hot gin and water and generous diet. The bowels must be acted on by half grain doses of calomel and ipecacuanha twice a day, with an occasional half ounce of castor oil and two grains of quinine every noon and night.

(*e*) When erysipelas attacks one of the limbs it may often be prevented from extending to the rest of the body by isolating it. This is done by drawing a line round the limb above the redness, that is between it and the body, in the shape of a band or garter with lunar caustic dipped in water and drawn round the limb. By this the vessels of the skin are hindered from conveying the disease beyond the prescribed line.

The constitutional *treatment* is above described.

The second kind intended to be described is

ERYSIPELAS ACCOMPANYING WOUNDS.

After accidental wounds or operations, from the most trivial to the most serious, erysipelas is known to attack the part, and this too without warning and unexpectedly.

This kind of rose is calculated to excite alarm, for the disposition to erysipelas after a wound, appearing in one case, is too often the forerunner of the extension of the disease throughout all the wounded in the ward, vessel, or hospital. Thus even a trifling wound must

be regarded dangerous and surgical practice only resorted to in cases of the utmost need.

This attack of Erysipelas is ushered in by a shivering fit, the tongue becomes furred and foul, nausea and sense of weight at the pit of the stomach is complained of, and the sore or wound feels tight and burning; the lips of and skin about it are dark red, and the pulse is full and excited. Thirst, head-ache, and restlessness oppress, and sometimes delirium supervenes. The redness increases, the Erysipelas extends rapidly, a quantity of fetid matter flows from the part, low fever, accompanied with great debility and utter prostration, comes on, and the patient sinks.

TREATMENT.—When the patient is first visited, if the pulse be found full and strong, and the part intensely red, blood should be taken plentifully from the arm, for which end one or two veins may be opened, and the man should be raised in bed. When the fainting has passed off, give five grains of calomel, and ten of Compound Extract of Colocynth, made into three Pills, and after five or six hours, give an effective purging or black draught: In four or five hours more, commence with doses of ten drops of antimonial wine, every three hours, and gradually increase the quantity to twenty, or even thirty drops, if the stomach will bear it.

LOCAL TREATMENT.—Take all the dressings, and plaisters, and bandages from the wound, and apply warm fomentations for half an hour or so, then put on a clean linseed poultice, made by pouring over the meal, boiling water.

DIET.—Gruel, barley-water, and tea.

OBSERVATIONS.—*(a)* Should the patient be low, emaciated, feeble, with a weak pulse, and labouring under fever resembling typhus, bleeding must not be thought of; the most nutritious diet, fresh animal food, jelly, isinglass, and the like must be given. Warm gin and water, and wine will do good. Add to these remedies half a grain of calomel, half of opium and ten of camphor, made into two pills, or into one powder, and give such a dose every four hours, for three or four days.

In this case also the wound must be stripped of all its dressings, fomented, and when cleaned, dressed with lint dipped into a lotion made of twenty drops of muriatic acid and one ounce of water.

CAUTION.—Care must be taken always to burn the dressings which have been applied to the wound, therefore it is well to wipe away the discharge from the part with tow or lint of no value, which should instantly be burned. This caution is greatly needed to prevent inoculating other sores with the erysipelatous poison.

(b) As soon as the Erysipelas has left the wound, the lips of it may be drawn gently together by strips of adhesive plaister, but these must be frequently changed, perhaps one or two every morning, to allow the matter to escape freely. The wound must be treated now as a simple ulcer (see page 34).

(c) Nothing appears to produce Erysipelas more commonly than lards, oils and unguents in poultices, on linen, or tow, and yet these are frequently applied, old, rancid and stinking, to sores and wounds.

In hospitals, camps, and ships, grease should never be applied to the surface of a sore, or any part of, or near a wound.

Sec. 4.—Carbuncle

is a hard, flattened swelling with an unyielding base, deep-rooted, and exceedingly hot and painful. The surface is red, like a bile, that is, at first bright, but subsequently brownish, it conveys to the patient the idea of a coal smouldering beneath the skin, whence is derived its name '*carbo*,' (in Latin) signifying a burning coal: it is designated technically 'anthrax,' which is, in the Greek (*ανθραξ*) of the same signification.

The disease is preceded by and accompanied with fits of shivering, night perspirations, foul tongue, sickness, vomiting, restlessness, impeded respiration, thick and pale urine, weight about the head, feeble pulse, sometimes great loss of sleep and anxiety; sometimes great drowsiness, languor, and occasional wandering of the intellect.

It has been thought to belong to that Erysipelas which tends to involve the parts beneath the skin and form matter, and has sometimes been called mortifying or gangrenous erysipelas; the treatment is to be similar, and that suffices for our present purposes.

It is known in the East as the plague spot, and has been commonly known as the *Persian fire spot*. If allowed to take its course it will most probably destroy the patient, for its tendency is ever to extend itself in depth and width, and after having involved a

great mass of substance beneath the skin, the skin becomes perforated with numerous holes, and a thin discharge oozes through it, irritating the adjacent parts, and wearing away the patient's strength and life.

TREATMENT, LOCAL.—The mortified tissues beneath the skin must be disengaged, or the patient will perish: for this end it is needful that a free opening be made, extending from one end of the swelling to the other, and this cut must be crossed by another deep incision of the same extent as the former: the base of the tumour must be exposed, and poultices of linseed meal and boiling water, to which a little yest may be added, if it can be procured sweet and fresh, are then to be applied to the sore.

It would be well, provided the mortified tissue is very tedious in coming away in the poultices, to powder some lunar caustic very finely and dust the worst of the spots with it, which will greatly accelerate the healthy action of the part and the separation of the dead substance, and consequently expedite the cure.

DIET.—The strength must be supported with good, fresh animal food and generous living; a little wine, or brandy and water, or porter would be of service.

TREATMENT, CONSTITUTIONAL.—Let half a grain of calomel, five grains of camphor and four of the extract of henbane be given, in two pills, every four hours, for two or three days: afterwards three drachms of tincture of rhubarb, half a drachm of spirits of ammonia (sal volatile) and the same of tincture of camphor may be given, in a wine glass of water, twice or three times a day.

OBSERVATIONS.—There is no reason to believe this disease to be in any way contagious, or infectious, and therefore is there no apprehension from the touch or presence of a man labouring under carbuncle: but it is desirable that no sponge, or linen should be used to wipe the sore, which is otherwise to be employed; common tow will answer every purpose, and may be instantly destroyed.

(b) Although many think the plague spot and the carbuncle to be one and the same disease in the East, produced by foul air, neglect of cleanliness, and abuse of the digestive organs; it would be injudicious and unwarrantable to say that contact with the infected with plague is not dangerous to the healthy: and thus also, although erysipelas commonly appears not to be contagious, yet there is one form of it, called hospital erysipelas, which seems eminently so. Precaution may be used quite consistently with the performance of all kind offices to the sick, and is a duty men owe to the healthy.

(c) When all the dead tissue has been separated, and left the wound clean, it will generally heal by the continuance of the poultices; or the dull parts may be dressed, for a day or two, with the lotion of lunar caustic, two grains to an ounce of water: then repeat the poultice and the part will heal over rapidly.

(d) The general health is of importance throughout.

Sec. 5.—Bile or Push.

There is a mild form of carbuncle commonly known by the name of bile or push.

The swelling is more conical and elevated above the surface than the true carbuncle: its base is firm, hard, hot and painful; the parts about are red and very sensitive: the top of the swelling is soft and soon forms a head which bursts and a thin unhealthy matter, tinged more or less with blood, escapes, but still the smarting heat and pain continue. On applying poultices more matter is discharged and shreds of the tissue, from a rotten core at the base, protrude from the opening: should you attempt to pull them away at once great pain would result as they adhere firmly to the parts beneath.

The Treatment consists in expressing firmly all that can be ejected from the hole formed in the bile, and continuing the application of poultices; removing as much of the core as will come away without much pain. As soon as the part has become clean a speedy healing of the sore follows, but a darkish scar is left for a long time after.

Diet.—Fresh wholesome animal food, and a moderate quantity of bread and vegetables may be judiciously recommended—if there is weakness in the pulse or debility from any recent attack of sickness, a little port wine may be added to the allowance of food, and isinglass and jellies, if to be procured.

Salt food is injurious, and must for the time be avoided.

Medicine.—Five grains of blue pill and four of

extract of conium, or henbane may be taken, in two pills, at bed time every night for a week, and, if the bowels remain confined, castor oil may be given, or a black draught occasionally.

REMARK.—(*a*) If neglected, sometimes biles prove fatal. It is very common for the man to suffer from a succession of biles, as one disappears another rising, and this succeeded by another and another till the patient is worn out.

(*b*) When several biles arise at the same time it is important to open each freely and pass lunar caustic to the base, and then, poultice and treat as above directed.

MALIGNANT PUSTULE

Affords this obvious difference from a 'Bile' in that the bile begins beneath the skin forming first a core, but this pustule commences on the surface of the skin in the appearance of a little blister, filled with pale fluid; the sensation in the part is that known familiarly as a pricking and scalding: when the blister is opened, or bursts, a little tinged water escapes which feels very hot; if poulticed the part is something relieved, but a hot and itching pain is still experienced.

On removing the poultice, blisters will be found to have risen about the pustule, as if the water from it had scalded the skin; in a few hours a circumscribed elevation will be formed like a pea in the skin, it is clearly defined and admits of being moved about and surrounded by the fingers.

The centre becomes black and an extremely minute hole is formed which runs the whole depth of the skin, it is so small as not to admit a probe: now indeed the parts about become very painful, red, and swollen; the pulse becomes small, tongue furred, thirst very intense, even intolerable: the hole grows rapidly larger; the discharge is said to be as hot as moulten lead: the surface of the skin is shining and often studded with little blisters: slow fever and delirium come on: the body begins to swell and the patient sinks: the swelling continues even after death and it is then that contagion is most to be feared, and appears most virulent.

CAUTION.—On no account the body may be permitted to remain unburied longer than is absolutely necessary. Throughout the course of the disease, in hot climates especially, it is most easily communicated by touch: it attacks the nose, hands and neck chiefly; and has been supposed to be produced even by respiring the effluvia, or certainly by handling putrid carrion, or the excrements of animals labouring under disease of the bowels.

Every thing touched by, or belonging to a man, who labours under malignant pustule, should be burned, and the body buried "without the camp," in a deep, deep grave.

TREATMENT.—No specific of invariable success is known for this disease; the best remedy appears to be, to apply to the ulcer, as soon as it is discovered, sharp pointed potass caustic, and, if the ulcerated hole be too narrow to admit it, continue to press

with the caustic, and in a short time the base of the ulcer will be reached. After this very severe application pour in a few drops of sweet olive oil.

If no caustic potass be at hand, heat wire red hot, and apply it boldly to the whole extent of the ulcer; afterwards put on a poultice; then if the ulcer gains ground, open it by two deep cross cuts, and apply effectually, to every part, the potass caustic, or red hot irons.

Continue to poultice with linseed meal and boiling water, and, when all the dead part has come away, if the sore looks healthy, it may be treated as a simple ulcer with poultices, or for a time with lunar caustic lotion (two grains to the ounce of water).

Sometimes when the slough and dead matter has come away, the same ill-looking, dark, ulcerated spot will be still discovered; if it be a part which can be removed (such as the hand, arm, foot, or leg) it must be amputated. This gives the best chance of life, though that is not one to be sanguine about.

Diet should be generous; wine, and brandy and water, and fresh animal food must be given.

Medicine.—Give thirty drops of diluted vitriolic acid, in a glass of water, three times a day, and half a grain of calomel, four of rhubarb and four of camphor, in two pills, every night, and half an ounce of castor oil every other morning.

Section 6.—Open Sores, or Ulcers

are breaches of the skin and of the soft parts of the

body, which discharge matter of various consistencies.

We divide the class into the following orders:

First, the SIMPLE *Ulcer*, a sore, secreting from its surface a thick, yellowish-white matter.

Secondly, the IRRITABLE *Ulcer*, a sore of irregular appearance discharging a thin matter, tinged with blood; the edges are red, painful, and jagged.

Thirdly, the WEAK, TARDY *Ulcer*, of pale colour, with high granules of proud flesh and thin watery discharge; the edges blueish, with several deep cavities about them (called sometimes sinuous).

Fourthly, the SLUGGISH, INDOLENT *Ulcer*; a sore with pale, insensible, callous (hard) edges or margins. The discharge is scanty, surface smooth, pale-coloured and insensible.

Fifthly, the GANGRENOUS, *Ulcer*, a sore produced by a dark spot, or core of mortified skin and parts immediately beneath.

Sixthly, the SCROFULOUS *Ulcer*, arising from the bursting of scrofulous glands, or from decayed bones affected with kingsevil.

Seventhly, the CONSTITUTIONAL *Ulcer*, a sore arising in the leg after general dropsy, accompanying disease of the liver.

Eighthly, the VARICOSE *Ulcer*, accompanied with diseased veins, which are hard, tortuous and knotted.

SEC. 7.—*First* SIMPLE ULCER,

Which secretes a thickish, creamy matter, requires rest and attention to the general health.

TREATMENT.—Apply, for a few days, bread and boiling water poultices, and as soon as the sore rises to a level with the edge, or skin it will heal rapidly. At this period let the surface be very lightly touched with lunar caustic, and let the part remain exposed till a crust be formed; then apply a piece of dry linen, and put a bandage on, lightly rolling the limb from the extremity upward; enjoin rest, and in twenty-four hours look at the part, which will be found thickly crusted with a hard dark matter; raise a very little piece of the head, and suffer the matter, collected under it, to escape: then touch this little exposed point with lunar caustic, and again cover with linen and bandage. Continue this plan for a few days and the ulcer will soon be firmly healed.

DIET.—Particular attention must always be paid to diet when the patient is suffering from an ulcer. Let no uncooked fruit or acid, or rich viands be allowed: meat, bread, potato, tea, barley-water, and coffee, should constitute all the nourishment.

MEDICINE.—Let a blue pill be taken every other night for a week, to be succeeded, in eight or ten hours, by an *effectual* black draught.

SEC. 8.—*Secondly*, IRRITABLE ULCER.

Known as a sore of irregular appearance, discharging a thin matter tinged with blood, the edges of which are red, painful and jagged.

This ulcer is often coated with an ash-colored matter, which, when disturbed, shows an angry, raw,

surface, and is quickly again covered with a matter, of similar consistence and appearance; it appears to be formed of the destroyed surface of the sore itself.

TREATMENT.—No progress towards a cure can be hoped unless the patient be strictly confined to bed: let the bowels be copiously relieved with three grains of calomel and ten of compound extract of colocynth, in two pills at bed-time, and a powerful black draught in the morning. This may be repeated every other day for a fortnight. Ten drops of antimonial wine may be given, every four hours, for three or four days, in a wine glass of water.

DIET must consist of gruel, barley-water, and light pudding, and no meat can be allowed till a great improvement be observed.

LOCAL TREATMENT.—No grease, lard, salves or ointment can be of any service—apply bread and water poultices, and, if the parts about the sore be very red, painful, and swollen, a dozen leeches, or so would be of service, or a score punctures with the lancet would answer the same purpose. Afterwards foment with warm water to encourage the flow of blood and fluid.

When the granulations begin to rise nearly to a level with the surrounding skin, let the ulcer be dressed with lint dipped in a lotion made of two grains of nirate of silver (lunar caustic), dissolved in an ounce of water.

It is better not to wash, or wipe the *surface* of the sore, but gently to wipe the matter from the *edges* with tow, which should be instantly consumed.

As the cure progresses attempt to bring gently the

edges of the sore nearer to each other, by straps of adhesive plaster applied over the dressing of lint.

It will be well to apply these strips of plaster half an inch one from another, and to use the lotion, in the intervals, outside the lint.

The ulcer will assume, in process of time, the appearance of a simple open sore, and may then be successfully treated according to the direction given in the former section.

Observations.—Throughout, attention must be paid to the bowels and diet, or success will not attend your efforts. The general state of the health will be indicated by the state of the sore. *In vain* do you look to the ulcer, unless you pay an especial attention to the general health.

This ulcer, like the fabled gorgon, cannot be destroyed till the excited state of the bowels and stomach be abated by judicious food and proper treatment, and thus inducing the irritable constitution to *sleep* awhile.

Sec. 9.—*Thirdly*, Weak, Tardy Ulcer.

Sores, carelessly treated, smeared with rancid ointments, or poisoned with poultices mixed with stinking grease, will often degenerate into a weak, or tardy ulcer.

The surface is pale, the discharge thin and watery, the edges blueish, and many deep abscesses will often be found about the thickened border. The granules of proud flesh are prominent, flabby, pale, and insensible. A thin, pale, jelly-like fluid may be pressed out of some parts of the ulcer—it is generally a sore

of long standing and sloughs, or ulcerates from the slightest excitement in the part.

The TREATMENT is very severe, but the cure is more effectual and rapid. It consists in burning with caustic potass the surface and edges of the sore, and this must be done by boldly and freely applying the potass to every part. It is more effectual and not so severe as the old method of removing all the edges and cutting the surface with the knife.

There is one other method, which consists of burning the edges and surface with red hot irons, but it is not so effective and is a far uglier operation.

Subsequently, let poultices be applied for a few days, till the burnt parts have come away, and afterwards apply the lotion of nitrate of silver (two grains to an ounce of water) and the cure will be speedily effected. Rest must be insisted on.

DIET.—Fresh animal food, and a glass of wine or so would do good. Crude fruits and raw spirits are to be avoided.

MEDICINE.—Give five grains of blue pill, every other night, for a week, and keep the bowels open with castor oil and black draughts.

SEC. 10.—*Fourthly*, SLUGGISH, INDOLENT ULCER,

Described as having thick, pale, insensible, hard edges, or margin; the discharge scanty; sore, smooth, pale-coloured and insensible: in old people the parts about are blueish, or rather purple, and the skin glossy, thin and shining. It is of the greatest importance not to confound this sore with the last-mentioned, as

the treatment is very different—a little attention will suffice to distinguish it—it will last for years if not properly attended to, and unfortunately it occurs mostly among the infirm, the poor, and the neglected, and it seems, like the class it mostly afflicts, that they "shall never cease out of the land."

The first thing to be done is to open the bowels gently, and give wholesome, mixed diet; enjoin perfect rest: poultice for a day or two, and afterwards the leg must be bandaged and the sore strapped up with adhesive plaster.

Suppose the ulcer situated in the leg (as it most commonly is): raise the foot above the level of the body and roll the foot firmly (but not too tightly) with a linen roller; continue bandaging up, to within a couple of inches of the sore, fasten your bandage with a pin for the time: then cut slips of adhesive plaster, an inch and a half thick and long enough to encircle the leg and fold the ends one over the other; heat one of the strips and then apply it, by passing it beneath the leg and bringing it smoothly over to the front; place the right end down, and then overlap it by bringing the left end flatly on the other side of the leg; let the two ends cross each other over the front of the leg: next take a second strip, and, joining the other behind the leg, bring it similarly over to the front of the leg and cross *it* also in a line with the former, and then another and so on till the ulcer is completely covered: then place a little carded tow over those parts of the plaster which cover the ulcer; remove the pin from the bandage and continue rolling the limb, till the ulcer has been passed: keep

the patient in the horizontal position, and at the end of three or four hours, if much uneasiness be experienced in the limb, ascertain whereabouts it is, and, if you trace it to a strip of plaster, snip it behind with a pair of blunt-pointed scissors; this will afford relief and prevent indentation.

You must not remove the dressings for a day or two, perhaps you will not need to do so for three days. When you do, it will not be necessary to wipe the *surface* of the sore, but only to wipe the *edges* gently, and then reapply the bandage and plasters. Continue this treatment till a cure be effected.

DIET.—Generous; and, if it can be had, a little porter once a day.

MEDICINE.—If the bowels do not act, an occasional black draught or dose of castor oil.

SEC 11.—*Fifthly*, GANGRENOUS ULCER,

Described as a sore produced by a dark core of dead skin and parts immediately beneath, which remains in its centre.

This ulcer commonly occurs in people past the middle age of life, who have had a good constitution and have exposed themselves, apparently without injury, to rough weather and labour, or active exercise.

A very slight accident may become the starting-post of the attack, such as grating the skin against a projecting hard substance, which obtains from the individual little more than a passing notice. On going to bed the stocking may be found sticking to the part, it is removed, and no more is thought of

the matter. In a day or two it feels tender, is red and somewhat painful; still it is treated as a scratch: the pain suddenly subsides, the part looks livid, then a small portion turns yellow, afterwards green, a slight elevation occurs in the scarf skin, which bursts and is found to have contained turbid watery fluid offensive to the smell; it then turns dark, and beneath and around it the skin seems a little sunken, black, and feels cold to the finger; on pressure it crepetates as if it contained cells filled with air. This is the spot of gangrene or mortification which gives its name to this kind of ulcer.

The pulse is weak and small, the tongue white or furred, there is languor and considerable emaciation, it seems as though the constitution was breaking up; the hands and arms decrease; the body is apt to become tumid and blown up with wind; the urine is generally thick and scanty; the skin dry and rough to the feel: the appetite impaired and the disposition more subdued.

Treatment.—The first thing is to give half a grain of calomel with four of camphor, every four hours, for the first three or four days; afterwards give a grain of quinine in extract of gentian, made into a pill, three times a day, and relieve the bowels with a dose of castor oil, or a compound aloe pill, if required.

Local Treatment.—Enjoin perfect rest, apply a linseed-meal poultice, to which, when just ready to be used, add a dessert spoonful of fresh yest (if to be obtained), or else ten grains of very finely powdered carbonate of ammonia. When the dark spot is beginning to be isolated, and the border is clearly

defined, cut the gangrenous core in four quarters, and then apply the poultices again, but without the yest or ammonia. Continue this treatment till all the core has come away. The sore must then be treated as a simple, or else an indolent ulcer according to the nature it assumes. Let it be borne in mind that lunar caustic is not to be applied to a sore unless the granules are on a line with the skin, and as it will not be the case with this ulcer, on the removal of the core, the best application will be poultices.

The DIET must be generous, consisting of fresh animal food, bottled porter, port wine, and moderate quantities of brandy and water; the great object is to support the strength, and this can only be done by nourishing food.

OBSERVATIONS.—(*a*) The patient's mind should be kept amused by reading and cheerful conversation. Cleanliness and fresh air are needful.

(*b*) It occurs, sometimes, that the wound, or ulcer, which had been doing well, suddenly assumes an unhealthy character, the granules of the sore look whitish, flabby, and appear filled with air: little blisters charged with tinged fluid rise, and the sore is dry, covered with an ashy coating; the pain is considerable; the parts about are red, hot, burning; this extends over the entire limb; the pulse is quick; tongue and teeth covered with brown, tenacious matter; the mind wanders; the eyes are sunken; the urine scanty; the bowels immoveably obstinate: after a while the sore, discharges a fetid, intolerably-offensive, thin matter, and a soft mortification appears

to cover, not only the sore, but parts about the limbs also:

The pulse, at this period, becomes tremulous and weak, and all hope vanishes of saving life.

Some live for several days, even after these symptoms have appeared: the groin swells, bursts, and mortifies; places break out, ooze bloody fluid, and, to the last, scalding and fearful pains accompany every discharge of matter, and every step of this fatal malady.

(*c*) It will sometimes happen, after the mortified core hath been removed from the gangrenous ulcer and the cure progressing favourably, that a little black spot will make its appearance near the edge, the discharge about this will be particularly offensive: If this little mortified point begins to separate, the ulcer at its base will be considerably deepened; should other points arise, ere this be removed, they will create fearful havoc and ultimately destroy the patient.

At best these cases are unfavourable.

CAUTION.—It appears that both these latter cases may be communicated by contact; therefore let the afflicted be kept apart from the healthy, and burn every sponge, dressing, piece of lint, or tow, or clothing, or covering or whatever else has been contaminated by the touch of the diseased.

(*d*) If, after gun-shot wounds, or wounds received on the field, the sufferer be neglected for days, dragged on hurdles, or jolted in carts, in inclement, or broiling weather, many, many weary miles and then left undressed for hours and hours, one of these fatal

forms of ulcer is very apt to occur, and then it may be expected to spread with fearful rapidity through the camp or ward :

It is this accident which gave, to these ulcers, the dreadful name of HOSPITAL GANGRENE.

TREATMENT.—*Cleanliness* stands first and foremost in importance; next, an open state of the bowels, and thirdly, wholesome diet.

Remove all the dressings and poultice the ulcer with barley-meal soaked with boiling water; if the pulse be full and strong, the part red, hot, angry and painful, let blood be taken by a lancet from the arm, and give ten drops of antimonial wine, and ten of tincture of henbane, every three hours, in water, and gradually increase the dose to double, if the stomach will bear it: in this stage, the diet must be barley-water and gruel. But it may happen that the case is more advanced; the pulse is low, weak, rapid; the patient feverish and emaciated; and the system drained by loss of blood and fatigue.

The DIET, in such a case, must consist of jelly, port wine, or brandy and water, sago, isinglass, and arrow-root.

The LOCAL TREATMENT should be to apply Fowler's solution of arsenic, with a camel's hair pencil, every morning, and, after it has dried on, cover the ulcer with lint dipped in hot household vinegar.

MEDICINE.—Half a grain of calomel and four grains of camphor every night and morning.

OBSERVATION.—When the ulcer shall have become changed into a *simple sore*, the *treatment* may be changed also to that, directed under that head.

Sec. 12.—*Sixthly*, Scrofulous Ulcer,

Described as arising from the bursting of enlarged glands; or from the working out of ulcerated bones, affected with kingsevil.

The commonest form of this disease is, when the glands upon the side of the neck, beneath the chin, or below the ear, enlarge; form an oval swelling, under the skin, which turns purple, inflames and gives way; thereby little holes are established through which matter, of various consistency, is discharged; this matter has a substance floating in it not unlike particles of curded milk.

In process of time, the matter ceases to flow and the ulcer dries up leaving, often, a discoloured surface and puckered scar. Other swellings appear, which run the same course, and this is the progress of the disease till it exhausts itself, or is arrested by the improved state of the health.

The Treatment consists chiefly in constitutional remedies; the bowels must not be kept too relaxed; the food should be nutritious and plentifully supplied, chiefly consisting of fresh animal diet: wine is of service, and bottled porter: exercise in the open air, cleanliness, and warm clothing are very important.

The Medicine recommended is, from fifteen to twenty-five drops of tincture of iodine, in a wine glass of water, three times a day; and five grains of mercury with chalk may be given twice a week.

If you observe the tumour, before it has softened with secreted matter, it would be well to have it rubbed. morning and evening with the ointment

formed of fifteen grains of hydriodate of potass to an ounce of lard. When the tumour softens it is better to introduce a lancet, in the folds of the skin, than to let it burst of its own accord; after lancing, apply a warm bread and water poultice; when the matter has been all discharged let a piece of adhesive plaster be applied over the wound, and, if matter still continues to run, apply another poultice at night. But let not poultices be applied constantly night and day.

Secondly, when ulcers occur from dead bone passing away, it is worse than in vain to attempt to heal the little sores. The object is to get away the dead bone, for which end, when a spike of bone appears, pointing through the ulcer, it will be well to seize it carefully with a pair of forceps and help it out, if some few fibres of flesh prevent its exit cut them through with a sharp-pointed knife; but gentleness is to be used or much mischief will ensue.

Sec. 13.—*Seventhly*, Constitutional Ulcer, or sore after general dropsy accompanying chronic disease of the liver.

Perhaps the 'Great ones' of the earth suffer most from this disease; nevertheless it is common also among those who have resided much abroad, and is found among soldiers and sailors yet in the exercise of their public duties.

When a patient has long suffered from dropsy, especially in the legs, it is common for the skin to be so distended with fluid as to require to be scored, or punctured to relieve it of some of the water, otherwise it would burst.

The water will continue to ooze out till the limbs are greatly reduced in size, and the places scored may heal with little trouble: yet ofttimes a sore will be established in one of these punctures; the commonest place for it is the shin: and this sore is most frequently *incurable*.

A young man, led into dissolute company, and acquiring the habit of hard drinking, especially if it be of ardent spirits, which by use will become the first and last occupation of his day, is very liable to the chronic disease of liver which precedes this constitutional ulcer.

Generally this affection occurs in those ranks of society in which, at its early stage, the best advice is procured: in part, the man is restored, but the sore remains always annoying, but especially painful when the health is disordered.

TREATMENT, LOCAL.—When the ulcer looks inflamed, put on from twelve to twenty-five leeches around the edges; then foment with warm water and apply a bread and water poultice; enjoin perfect rest: afterwards dress with a lotion made of a drachm of calomel and a pint of lime water.

CAUTION.—If an attempt be made to heal the ulcer by strapping, the life of the patient will *inevitably* be sacrificed.

The general health must be your chief concern.

At best the case is a very dangerous one, and, ten to one, it will terminate fatally when least expected.

TREATMENT, GENERAL.—Do not attempt to give calomel or opium; it is a too violent remedy: try, however, small doses of blue pill, about two grains, with

four of the extract of henbane, night and morning. Keep the bowels open with castor oil, or a compound rhubarb pill.

This case is very discouraging to all parties.

SEC. 14.—*Eighthly*, THE VARICOSE ULCER,

Or sore, accompanied with diseased veins, which are hard, tortuous and knotted.

A slight accident, even a scratch, is sufficient to produce an ulcer in a leg, where the veins are large, distended and diseased, known commonly by the name of '*varicose veins*.'

TREATMENT.—It is of two kinds, the first, is to cover the ulcer with a piece of dry lint, and apply firmly to the limb, a linen roller, so as to afford support and compression to the vessels, or an elastic stocking; or laced stocking, which is to be put on when the foot is raised above the level of the body.

The other, and the most effectual, is to apply a piece of *potassa caustic*, of the size of a pea, to the veins, above the part which is diseased and knotty; bind it there, and suffer it to remain for a couple of hours: by this means the vein will be obliterated, and, afterwards, the ulcer will heal of its own accord.

This is a painful remedy, and no doubt but that, occasionally, considerable constitutional disturbance has arisen therefrom, but it is *good* practice, and mostly attended with the best results.

Should bleeding occur in the burnt spot, it may be arrested by pressure, either by folds of lint, or the finger, or both.

Sec. 15.—Wounds

May be profitably classed under five heads.

First, Wounds inflicted with a sharp-cutting instrument.

Secondly, Bruised wounds.

Thirdly, Wounds inflicted with a sharp-pointed instrument, called commonly "punctured wounds."

Fourthly, Poisoned wounds, whether from arrow, rabid animal, venemous creature, or from inoculation from decaying bodies.

Fifthly, Gun-shot wounds.

Sec. 16.—*First*, Wounds inflicted with a sharp-cutting instrument termed incised wounds.

Much coolness, firmness, and promptitude, are required, in treating this class of wounds; for, if the cut be extensive, vessels of considerable magnitude will be found to have been severed, and the blood will flow so copiously, that ready aid alone can save the patient.

The first thing to be done, is to look steadily at the wound, and see whence the *bright red* current comes, which pours out in jets: put your finger on that vessel's mouth, and there keep it, till you can obtain a pair of common forceps, by which you can seize the vessel, and your assistant can pass a piece of fine twine, or thick silk round it, and tie it in a knot, securing it firmly.

If the wound be inflicted on one of the limbs, and you have not the skill and coolness to do as above

directed, put a tourniquet on the limb, above the wound, that is, between the wounded part and the body: but if no tourniquet be at hand, tie a handkerchief round the limb, and pass a piece of stick under the handkerchief, then turn the wood round and round, and so tighten the handkerchief, till the *bright red* stream jets out no longer: you will then have time, if courage be not wanting, to search for the vessel, which may be tied. This latter plan is not equal to the former, because, by this bandage the blood of the veins is prevented flowing, and they therefore empty their contents into the wound, and deluge it with dark blood.

Notice.—It should always be remembered, that the vessels which require to be secured, always pour, from their severed ends, bright red blood in jets, and are called arteries. They appear to the eye to pulsate, and the jets correspond with this motion. Great care must be had *not* to tie veins, and these are commonly distinguished by their pouring forth an uninterrupted stream of darker blood.

Observation.—(*a*) The largest artery having been secured, sometimes bright red blood will continue to flow, mixed with the darker sort: it will be found that this proceeds from one, or more smaller arteries: take a sponge and wipe the part of the wound, whence the blood proceeds; you will soon discover it, seize the mouth of the vessel with the forceps, pull it out a little, and then secure it, by passing a piece of silk round it, and tie it on a knot: continue this search till the bright red current is stayed.

(*b*) Remove from the wound the clots of blood, and, if a large vein continues to pour out much blood of a dark colour, double a piece of lint, eight or ten times, and put it on the bleeding mouth of the vessel, and retain it there, with your finger, till the blood stops flowing: for a time after, leave open the wound, covering it with a piece of cloth dipped in cold water. In six or eight hours, if the bleeding has utterly ceased, remove the piece of lint from the wound and also what clots remain; then collect all the pieces of silk, or twine, with which the arteries, or blood-vessels were tied, so that the ends may be outside the wound and no more of them confined within than is necessary. After this, bring the two edges of the wound carefully, yet firmly together, and, while you commit them so retained, to your assistant, place, across the lips of the wound, strips of adhesive plaster not quite an inch thick, which will retain them in their position: the ligatures (or silk confining the vessels' mouths) will, of their own accord, come away in a few days.

Notice.—In the majority of cases, where no large artery is wounded, and no great flow of bright red blood occurs, it will be well instantly to bring together the lips of the wound, and confine them with slips of plaster, as above directed. The great object is to unite them so accurately and perfectly, that, to a careless eye, no mark of the place of division is left.

If this be well done, it will most commonly happen, that union, or adhesion will take place in two or three days. But sometimes a portion will remain not

closed up, which must be healed by the granules of flesh growing up and filling the hole. Even in this case, the parts of the wound not united should have its lips brought together by strips of adhesive plaster. this will leave but a smaller extent of wound to be filled by granulation.

OBSERVATIONS.—(*a*) The wound which is healing by granulations, will form and discharge a considerable quantity of matter; this must not be washed off, but may be permitted to run off; nor should the sore or surface of the wound be wiped, the edges may, and also be pressed to favour the escape of the matter; then re-apply the dressing.

(*b*) Friar's balsam, lards, ointments and grease should be kept as carefully from wounds, as razors from lunatics.

(*c*) *Blood* is a *very bad* salve for a wound. As a rule, it may be laid down, that the cleaner and drier a fresh, clean-cut wound can be made, without irritating the surface by wiping it too frequently, the quicker and more perfect will be the cure. If the wound be full of blood, there is no prospect of uniting its cut edges; wherefore it is, that deep and severe wounds, including injuries to blood-vessels of importance, should not be closed for many hours after the accident, in order that time may be given to arrest the bleeding and clear the wound; if this be rightly done, the surface will become glazed, and is then in the best state for rapid union and cure.

(*d*) It is not here advised that, for slight wounds, or where only small, unimportant vessels have been cut, the wound should be left open; on the con-

trary, the bringing close together the cut edges, and the application of strips of adhesive plaster, so as effectually to keep the wound shut, will arrest the bleeding, and soon effect a cure.

(*e*) Stitches with a needle and thread will never be required for a clean cut, incised wound, except in the neck and face, if the adhesive plaster be properly applied.

For these, directions will be given in their proper place.

Perfect rest is required for the wounded part.

DIET, in severe wounds, must be moderate, all wines and spirits strictly forbidden, and sometimes, even animal food.

MEDICINE.—The bowels may be kept open with an occasional black draught.

SEC. 17.—*Secondly*, BRUISED WOUNDS.

Are wounds inflicted with a blunt instrument, as by machinery, or any thing whereby a part is torn and lacerated.

To an inexperienced eye, these are often not so frightful as a large, clean cut wound, because less blood is poured forth; indeed sometimes a severe accident occurs to a part, by which the vessels are torn and twisted, and yet, for a time, little bleeding ensues; the part feels cold and has a pallid, death-like hue: this collapsed state of the limb may be succeeded by mortification of the injured limb, or, what is far more common, a violent, active inflammation, which will require general bleeding, cold applications to the wound, and the internal exhibition of

tartarized antimony (the dose varying from twelve to thirty drops) every three hours.

A bruised wound should be treated more like a simple ulcer than a clean cut: the part must be kept at rest: poultices, must be applied, of bread soaked in boiling water, to favour the formation of matter; the parts of skin and tissue, which threaten to come away, may be detached by the knife, and a clean sore must be made as soon as possible. Subsequently, an attempt may be made to bring the edges of the wound nearer to each other, leaving as little space for the granules of the flesh to fill up, as can be done, without creating deformities: straps of adhesive plaster may be used to effect this.

If a profuse discharge occurs, weakening the patient, port wine, porter, fresh animal food, and other nourishing diet may be given.

CAUTION.—To prevent matter burrowing into the soft parts, it is better to bandage the limb from below upward, and keep the limb at rest.

OBSERVATIONS.—(*a*) Where a member has been torn off, the practice has been, to amputate above the injury, and treat the case then as a simple clean cut wound. A man's discretion must be exercised; assuredly, it has *often* been done with a great saving of pain to the patient, and accelerated the cure.

(*b*) When a finger has been torn off, the bone having been broken, it should be cut off close to the knuckle, but always with this especial provision, that it be neither the thumb, or fore finger, in which case, save every portion you can; for they are invaluable.

N. B.—Where bruises occur without wounds, the treatment is prescribed in page 207.

SEC. 18.—*Thirdly*, PUNCTURED WOUNDS; WOUNDS INFLICTED BY A SHARP-POINTED BODY OR INSTRUMENT.

These are often complicated with injuries, deep, unseen, and imminently dangerous, especially when any part of the abdomen is the seat of the mischief. If the bowels be wounded it is useless to close the external wound; the best thing would be to try and bring the wound of the intestine, or gut, so closely to the external wound that a needle might be passed through both, and twine twisted in a figure of ∞ passing round the head and point of the needle to confine it in its place.

Considerable inflammation will ensue, which must be combatted with local and general bleeding, and abstinence, the most rigid. When the needle comes away, sometimes an external wound will appear, through which matter from the bowels will pass out; but this may, by the application of the nitrate of silver caustic several times, be made ultimately to heal and close up.

Generally, however, the wound proves fatal, from matter having escaped into the cavity outside the bowels, called abdomen, soon after the receipt of the injury; or else, from the impossibility of securing the intestine; or else, from subsequent inflammation.

Secondly, If the bladder be wounded by any sharp-pointed instrument through the belly, death is imminent, the urine has escaped, and a few hours only may be reckoned on for the duration of life.

OBSERVATION.—(*a*) There have been many cases

of wounded bladder, at the lowest part of the belly, which have not proved fatal: in all these cases it would be always well, if the external wound be small, to enlarge it, so as to expose the wound of the bladder, and introduce into it a slip of lint, which will favour the free escape of urine, for, should this pass freely through the wound, the patient may recover in a few days.

CAUTION.—It is of great importance to keep open the external wound.

After the fourth day, the lint may be removed from the wound in the bladder.

Throughout, the patient must be laid on his side; if inflammation arises, open a vein, freely, in the arm, and apply to the belly twenty or thirty leeches; give twelve drops of antimonial wine every three hours:

For DIET, give nothing but barley-water till all danger be removed.

OBSERVATIONS *continued.*—(*b*) It is advised by many, in these cases, to open the urethra, or urine-passage from the crutch, as is done in the lateral operation for stone; it is judicious, if any one be present capable of undertaking it; then must the latter wound (that is in the crutch) be kept open, by introducing through it into the bladder, a soft tube, through which the urine may freely pass, and this may be permitted to remain in, till the belly-wound of the bladder be perfectly cured, which ought to be effected in four or five days; after this remove the tube, and the lower, or crutch-wound will quickly heal.

Thirdly, If the punctured wound extends through

the walls of the chest into the lungs, blood will frequently be coughed up, and in abundance.

TREATMENT.—Bleeding from the arm must be resorted to without delay. The object is, primarily, to prevent bleeding into the lungs, and, subsequently, inflammation of the lungs. Ten drops of antimonial wine must be given every two hours, and five grains of calomel at bed time. In a day or two, if inflammation again threatens, the bleeding must be repeated, and the antimony and calomel persisted in.

DIET.—Nothing but barley-water, till all danger disappears.

OBSERVATIONS.—It will frequently be found that the skin about the wound will be puffy, and will convey to the touch a sensation as of air confined in the loose tissues beneath, this is very common when the outer wound is very small, or closed by plaster; it is caused by air having escaped from the lung into the parts immediately beneath the skin.

LOCAL TREATMENT.—Close the wound, and put over it a piece of simple adhesive plaster, confine it in its place by a broad flannel bandage.

If a rib be broken, see directions given in page 206.

CAUTION.—For many months the patient must be guarded in exercise and diet.

Fourthly, When no internal part is injured, but the punctured wound is inflicted on the fleshy parts of the members, or trunk, much mischief ensues; first, from blood which is let loose in the substance of the flesh; secondly, from the severe inflammation; and lastly, from the abundant discharge which succeeds.

These evils appear inseparable from the kind of

accident, and seem rather to be increased than diminished by the popular plan of enlarging the opening; an operation, painful, and worse than useless: But although, at first, this operation is to be deprecated, it may afterwards be required, if matter be confined or subsequently lodged about the wound, or near the seat of injury.

At first, nothing is so correct as to examine the wound, to ascertain if any foreign body (a bullet, a splinter, or the like,) be left in it; in which case, it may, or may not be proper to remove it, at all risks and events. Certainly, if it can be got at easily, and removed without tearing and violence, it is far better to secure it and dislodge it.

Additional directions on this subject will be found in the Section on gun-shot wounds, page 75.

TREATMENT.—Should no foreign body be in the wound, let it be fomented with flannels, squeezed out of hot water, and laid on every five or six minutes, or oftener, if required, for an hour: this will encourage, at first, the discharge of blood and fluid from the wound, whereby great relief will be afforded: then put on a bread and hot water poultice. When thick, healthy, yellow matter forms in the wound, the part may be bandaged lightly, to keep the edges closer together; but care must be taken not to let the matter burrow, after a time; and this is done by bandaging the limb above and below the wound, if the patient be in a reclining position; and from below up to the wound, if he be permitted to get about.

Use no grease, or ointment of any kind.

Diet, at first, must be very low, especially if leeching or general bleeding be required, in consequence of the intense heat and swelling of the part; at which stage twelve drops of antimonial wine may be given, with advantage, every three hours. But subsequently, when healthy discharge comes on, moderate animal diet, and a glass of porter would do good.

Medicine.—The bowels must be well relieved by black draughts and occasional doses of blue pill at first; subsequently, little or no physic will be required.

For punctured wounds of the brain, see page 120.

Sec. 19.—*Fourthly*, Poisoned Wounds.

There are four descriptions of wounds, complicated by the inoculation of poisonous matter, which must be here noticed in order:

First, Those inflicted by the stings of insects.

Secondly, Those inflicted by the bites of serpents.

Thirdly, Those inflicted by rabid animals.

Fourthly, Those inflicted when in the act of cutting up carrion.

Division First.—Wounds from the Stings of Insects,

Such as the 'tarantula spider,' hornet, bee, wasp, &c., are rarely dangerous; death, however, has been known to ensue from a cluster of bees stinging an individual upon whom they had alighted; and this fatal consequence occurred, not from inflammation following upon the excitement, but from the

primary effect of the poisonous matter on the system: the symptoms resembling those which follow the bite of the hooded-snake, or berg-adder.

TREATMENT.—The first thing to be done, to a part wounded with the sting of an insect, is to examine it minutely, with the view of ascertaining whether the sting be left, which must, if so, be extracted with a pair of tweezers; sometimes this may be effected with the finger nails: afterwards wash the part thoroughly dropping over it and then running it through warm water: if the stings be numerous, apply warm fomentations, by flannels wrung out of hot water and covered over the part. Then apply some 'Eau de luce,' which has the effect of decomposing the poison, and has been successfully employed in wounds of a far more dangerous character.

'Eau de luce' may be thus made: take of spirit of ammonia (sal volatile) ten fluid ounces, and add it to a composition formed of three drachms of mastich, nine drachms of rectified spirits of wine, fourteen minims, or about twenty-two drops of oil of lavender, and a fluid ounce of water of ammonia (called hartshorn). Mix them well. The virtue of this excellent remedy resides in the ammonia. Attend to the bowels and diet.

Bites or stings from scorpions, West India centipedes, gnats, musquitoes, and the ten thousand insects which infest the tropics, may be treated as above prescribed; bearing in mind, that, when the wound is irritated by the injection of poisonous matter, the 'Eau de luce' may be of material service

in addition to fomentations; but, when the bite is not poisonous, it can only do mischief.

Division Second.—Wounds from the bites of Serpents

May be considered under two heads.

First, Bites from harmless serpents, (*i. e.*) serpents not venomous.

Second, Bites from poisonous serpents.

It would be very desirable, could we determine by well-defined external marks, whether the creature which inflicted the bite was, or was not venomous; but this cannot be done with certainty.

It is well known that the boa constrictor is not poisonous, but its attack is formidable from its enormous power and the size of its jaws. Should the case, however, be simply not poisonous, all the TREATMENT, which is required, consists in warm fomentations of flannels wrung out of warm water, a poultice of linseed meal, and afterwards a few strips of adhesive plaster to keep the lips closed and help their union. Rest should be enjoined, an opening dose and plain diet.

OBSERVATIONS.—(*a*) Generally much doubt about the nature of the bite from a serpent is left on the mind of the patient, aye, and the attendant too. It was, formerly, believed that all poisonous serpents might be distinguished by the breadth of the head; as the rattlesnake, which has two prominences, one on each side of the head; on opening the mouth of it, you will see one, or more large, curved, projecting fangs, which are situated on each side of the upper

jaw, where they are embedded; their roots extending up to the hollow cells which contain the poison, and which are lined with a delicate membrane.

On the infliction of a bite, the poison fangs are pressed back upon this membrane, which then bursts, and the poisonous fluid pours through the channel in the fangs into the wound.

But although this projection on each side of the head in the rattlesnake is a mark which easily stamps the character, there are in the West Indies, in the western coast of Africa, the Cape, the east coast, and at various parts of Hindostan, Lahore, and Little Tibet, a race of vipers, which, although possessed of poison-fangs and consequently venomous, have no external prominences to indicate their fatal character; the head being small, rounded, and the body elongated, tapering uniformly to the tail.

The Hon. Captain W. G. Osborne, in a work published about June 1838, on the Court and Camp of Runjeet Sing, relates, that at Lahore "two of our Sipahis died in one night from a bite of a snake of a dark-green colour, about eighteen inches in length, less in thickness than a little finger." The wound was a small puncture on the sole of the foot, and the men appear to have died without having been awakened by the bite, perhaps instantaneously.

(*b*) It is certain that those who know most about the matter, are most cautious in giving an opinion about the harmless nature of a snake from its general external appearance.

There is a class of snake, well known as the berg-adder, diminutive in size, often not a foot in length,

and having a proportionate head, but which is one of the most fatal of all the tribe. The yellow snake of Africa, the green 'Iguana,' the 'Labaria' of North America, the yellow or spotted adder of the West Indies; the 'boa fasciata,' or psuedo boa, nay even the 'koonu-kusi,' or bush-master of South America, specimens of which are found to possess fourteen poison fangs, have heads by no means disproportioned to their bodies: the noiseless rattlesnake called the 'guaima,' which is as large as a moderate sized boa, and far more formidable, is a specimen of this class of snake; all of which are poisonous and eminently dangerous.

(c) The 'puff-adder' has a large broad head, and when irritated, or in pursuit of his prey, which he follows by sight or the print of footsteps, puffs out behind his head so as to form a somewhat terrible aspect.

The spectacled, or hooded snake of the East Indies is called by this double name, first, because of its having the mark of a pair of spectacles on the back of the neck, and secondly it has received the name of hooded from a loose apparatus behind the head which can be inflated at will.

CAUTIONS.—It should be laid down as a rule, not to touch a snake till assured of its death.

Secondly, Not to remain within reach of the spring of a snake, when it can be avoided.

Thirdly, Not to continue to flee from a puff-adder, or a 'cobra di capello' when you see it resolved to follow on your track, if you possess the means of defending yourself, either fire-arms, sword, or iron-

pointed stick: great coolness is required in order to deal successfully with this kind of enemy.

Immoderate fear may betray your interests as fatally as foolhardihood.

TREATMENT.—When any one has been bitten by a venomous snake, or one that has escaped whose tooth is feared; tie a handkerchief tightly round the limb above the wound; then wash the part thoroughly, pour warm water from a considerable height upon the wound, and after the ablution has been carefully effected, apply to it the 'Eau de luce' upon lint; remove the handkerchief and watch the patient; if, at any period within the first three hours, the part begins to swell, the pulse to become depressed, the face pale and anxious, covered with perspiration, and the breathing quickened, rather difficult, no doubt is left but that excision of the part affords the only hope of recovery; it will be found, almost invariably, that when this is effectually done, every alarming symptom will subside, even although death seemed to be inevitable.

It would be difficult to say when the operation would be too late while life remains; generally, one would be inclined to believe, that the patient died from the continued absorption (drinking in) of the poison, and that, if by excision this action were arrested, there would be much chance of a recovery, however large the quantity already absorbed. Hope by *death alone*, in these cases, is thoroughly subdued.

When excision of the part is to be determined upon, give the patient a tumbler of stiff brandy and

water, containing three drachms of sal volatile, (if to be procured).

Supposing the bite inflicted on any fleshy part of the body, examine the wound well and cut round it as if about to remove the entire rotten part of any large fruit: in this manner you may, by one operation, cut out the injured portion: but, before proceeding to so bold an attempt, you must ascertain, by feeling with your finger carefully, that there is no pulsating artery in the way of your purposed excision; for you must be heedful not to lay open any large vessel, or death from bleeding would ensue: it will be found mostly that, in the fleshy parts of the body, no such fear need be entertained.

Should any doubt remain as to the entire removal of the poisoned part, let it be washed, by pouring on it warm water, and afterwards by applying a wet rag saturated with the 'Eau de luce.'

The excision of the part is, however, often required for a bite in the foot, hand, toes, or fingers: all that can be done in these cases is to remove the sides of the bite, and although the tooth hath apparently entered a tendon, whose shiny, white substance can be distinctly seen, cut *down* to it, but not *into* it; scrape it rather with a knife, then wash it thoroughly and apply to it 'Eau de luce.' Afterwards poultice with linseed-meal, and treat like a common sore.

Observations.—(*a*) You may remember, for your comfort, in treating 'bites of serpents,' that it is not the *smallest* quantity of poison left which causes

death, or even very severe consequences, as is the case of a rabid dog. But on the contrary, bites from adders in a feeble state, or in many cold climates prove *rarely*; even troublesome, if washed well, and afterwards treated with the 'Eau de luce.'

(*b*) Stimulating fluids, such as brandy and water, with the sal volatile (spirit of ammonia,) may sometimes be required when a bite has been recently received, for a chilliness and faintness will often supervene; but, after these symptoms have disappeared, it is incorrect to give stimulants. A drachm of sal volatile may, indeed, be given occasionally, but the diet should be low and light, and purgatives will be required.

(*c*) It is always proper to ascertain, if possible, from an inspection of the mouth of a serpent, if it be venomous, or not. If the serpent be HARMLESS, the upper jaw will be furnished with rows of teeth of a very similar size, shape, and appearance; the first row will be placed along the front edge of the jaw; the second more internally arranged on either side of the palate, and ranked in regular order behind the first. If there be more teeth, they will be behind these smaller, aud pointed, as all the rest, back to the throat.

The POISONOUS snake has, on the contrary, certain fangs on each side of the jaw, large, prominent, and hollow, which project backward to the poison-bags, and are far more conspicuous than the other teeth. If doubt remains, pass a boar's bristle up the hollow of the tooth, and the case will be demonstrated.

CAUTIONS.—Trifle not with your life so madly, as

to run unnecessary risks with that fatal enemy to man, 'the serpent,' before assured of his death.

Never allow the Indian proverb of "uniformly fatal," which the natives apply to the bites of half a score snakes, either to damp your energy, or blind your eyes.

Do your best, not to suffer the long faces of your coloured companions to frighten *you* out of your wits, or your *patient* out of his life.

If a man has been bitten, and be found by you in a sinking state, pale, covered with cold perspiration, and breathing with difficulty, do not stay to wash the part, but order the standers-by to get warm water, and, in the mean time, excise the part, coolly.

Always offer to excise the part the instant the bite is inflicted, but do not insist upon it, if you can wash the bite and get 'Eau de luce,' until the faint state comes on.

If your own finger be bitten, suck it instantly, and get warm water as soon as you can. Ask some one to tie a handkerchief round your arm till the washing is satisfactorily effected.

Do not swallow the spittle with the poison, 'tis safer not, although the contents of the poison-sacks of a score berg-adders might not injure the stomach. Yet run no unnecessary risks. It would be better, having filled your mouth with saliva, in which your finger has been washed, to spit it out, not suffering it to touch the back of your throat, and afterwards, wash your mouth with water and sal volatile: wash your finger with the same; then you may apply the 'Eau de luce.'

DIFFERENT REMEDIES.—(*d*) The 'Tanjore' pills, which are a sovereign remedy among the Indians for the bites of serpents, are found to contain arsenic: they have been deemed successful, but are not so trust-worthy as the solution of white arsenic termed 'Fowler's,' which contains uniformly four grains of white arsenic to a fluid-ounce.

(*b*) It has been strongly recommended to wash the part bitten with this Fowler's solution of arsenic, and then to give internally *two fluid-drachms every half-hour* for three hours and half, or four hours; according to this advice, from seven to eight grains of white arsenic are given in the space of four hours; whereas, hitherto, we have deemed it dangerous to give more than a *sixteenth part of a grain* twice, in such a space of time. What can be said, when cures have been effected by a remedy so violent, but to stare, stamp and talk fustian about this, or any other matter, which appears strange to us, is not at all profitable.

In the East and West Indies, the numerous, well authenticated cases of the most favourable results, following the practice of giving *a grain* of white arsenic, (or two drachms of Fowler's solution) every half-hour, till eight doses have been administered, warrant the continuance of the practice, at least, in desperate cases of venomous bites.

It is probable, that the practice, minutely described and recommended in the former part of this Section, is to be preferred; it may be deemed more discreet, considering the state of the medical science; yet let us not be surprised to learn, that sometimes even

"our indiscretion serves us well," especially if our regular practice, or deep plots do pall.

The knowledge of all these methods of treatment will serve well, if this section be read at leisure, and not applied to solely in the moment of danger, the moment for action.

Division Third.—Wounds from the Bites of Rabid Animals.

Wolves and dogs are the most liable of all creatures to 'rabies,' called, strangely enough, 'hydrophobia, because, as we suppose, the creature so far from displaying an aversion for water, eagerly desires and swallows it. From these animals it is communicated to foxes, cats, asses, mules, horses, pigs, sheep, bears, monkeys and, lastly, even to human beings.

Man is the only creature that exhibits the symptom of that 'dread of water,' or whatsoever by its sound reminds him of water, which, in him, characterizes the disease.

In variable climates, or where the winter is cold, damp and protracted, 'rabies' is most common; and, when the awful consequence is remembered which one rabid animal in crowded cities may induce, we are astounded that dogs, whose health is so little understood, should ever be permitted to run loose. No master of a vessel will allow a creature, liable to communicate rabies, to infest his vessel till it has been submitted to a rigid quarantine.

In camps, dogs ought not to be allowed to run loose; and, from close thoroughfares, they ought to be expelled for ever.

In cities and the suburbs, scores of idle vagrants are allowed to prowl about with ill-conditioned brutes, whose hanging heads, half-bare backs, sunken, sullen eyes, indicate a state of disease, not unlike the early stage of 'rabies,' so that a scourge, formerly very rare, has extended fearfully and become of almost frequent occurrence.

Signs of Canine Rabies.—The first stage of rabies in a dog is indicated by his altered manner and unusual moroseness; he no longer pursues his wonted frolic; he strays from his home and will, generally, get out of the way of all creatures.

In the second stage, he becomes more irritable, snaps at every thing and every creature, picks up pieces of wood and swallows gravel, straw and chips of various material.

In the third stage, he becomes savage, furious, wild; his mouth covered with foamy saliva; he gnaws wood, runs restlessly about biting at all things in his way and ultimately seems to die from exhaustion.

From fifteen to twenty persons and a score of horses, cows, or sheep, have been known to have been bitten by one dog in one day. We hear of societies coolly collecting the cases and noting the time which generally intervenes between the receipt of the injury and the inevitable death of the individual; nay, of late, men give the results of the cases under their own care, or observation: *but as none have ever proposed a cure, it is a pity some do not seek the prevention*, by enforcing the utter expulsion of dogs from every populous district.

The only known method of communicating rabies, is by the saliva of the animal inserted in a wound.

The length of time, from the infliction of the injury to the appearance of hydrophobia, varies. In most cases, it occurs in the first forty days; but, sometimes, not till eighteen months. The cases of more protracted periods do not warrant any conclusion relative to them, in their present state.

The bite from a rabid animal generally heals kindly enough, but, after a while, the sear begins to swell, there is a shooting pain felt in the limb, and the patient becomes feverish and thirsty; on attempting to quench his thirst, a violent spasm comes on in the throat, which in time extends over the whole body: having been utterly exhausted by the spasm, or convulsion the patient becomes calm, quiet and generally perfectly conscious of his awful state. The paroxysm is renewed after a short interval and fearful delirium succeeds. The head feels hot, and is painful; the pulse rapid; tongue dry and furred; and the quiet is for a shorter period: anon, the convulsion returns; and in a shorter or longer space of time, according to the age or strength of the patient, death supervenes through extreme suffering and the most terrific convulsions.

TREATMENT.—As soon as any one has been bitten by an animal suspected to be rabid, the part should, if possible, instantly be well washed with warm water, and then, if a large syringe can be procured, it should be used forcibly to inject more warm water into the wound. Afterwards the part should be cut out, as

we have recommended for bites of serpents, but with this additional subject for caution in the mind, viz. that whereas a small portion of poison from a serpent is not fatal, we have every reason to believe that one particle of the saliva of a rabid animal is fatal; wherefore, the excision must be complete to be effective. After excision, nitrate of silver caustic should be applied to every part of the wound.

If the scar from an old bite becomes red, painful, and swollen, let the part be carefully cut out, and then apply thoroughly the lunar caustic.

If the symptoms of hydrophobia occur, bleed freely, to fainting, from both arms, and give twelve grains of laudanum by the mouth. Allay the thirst with morsels of ice, which will rarely cause any spasm, if given piece by piece.

If spasms return again, open the veins and give a piece of opium, about half a drachm to be eaten. It is probable that this treatment will weaken, or perhaps arrest the convulsions. Do not take the bandage from the arms, nor cover the openings till the patient has been free from a paroxysm for at least three hours.

Should the convulsions again threaten, bleed again and give large morsels of opium, a drachm every twenty minutes. If they still continue, give, if it can be obtained, a grain of 'nicotin,' in a confection, every half hour till the convulsions are arrested.

Pieces of ice on which two drops of 'Steel's prussic acid' have been dropped, given every half hour, has not destroyed the patient, but greatly weakened the convulsions; it is true, that under all these treat-

ments the patients have not often recovered, but great relief, almost invariably, follows these courses of treatment.

The remedy, which well deserves especial attention, is to dissolve eight grains of white arsenic in a little tincture of opium, and give it in a strong paste made of equal parts of powdered opium and jelly, and giving an eighth part every twenty minutes or half hour, till all be taken.

The peculiar acrid principle of tobacco (nicotin) is very difficult to procure, and very dangerous to use; but, in these cases, medicines lose their power and are not terrible to those who have once suffered a 'hydrophobia-paroxysm.'

Division Fourth.—Wounds received during the Cutting up of Carrion.

Horses which die of the glanders; cows, pigs, or sheep which die of inflammation of the bowels; carcases rescued from wolves and jackalls, should not be handled by men; for in cutting them up dangerous, or even fatal diseases have been inoculated by their own knives, or sharp points of bone.

The symptoms from some of these resemble wounds from dissecting the human subject, and may be treated in a similar manner.

In the course of a few hours after the receipt of the injury, a severe pain is felt in the part; it swells, and the pain and heat extends up the arm-pit; the pulse becomes full and hard; the face flushed and anxious, and the individual exceedingly disquieted:

in the course of the following day, the symptoms become greatly aggravated; the injured part throbs violently; the hand and arm are streaked with red lines, and the general disturbance increased: in a few hours more, the breathing becomes quick and difficult; drowsiness comes on, the part mortifies; the pulse full, and is irregular, and there is utter prostration of strength. In a day or so the sufferer sinks.

TREATMENT.—In the early and inflammatory stage, blood should be taken, from a large opening in a vein of the arm, till fainting comes on. Then give twenty drops of antimonial wine every hour and half for sixteen or eighteen hours and ten grains of calomel as soon as there is no fear of more vomiting, which will be after the first, second, or third dose. Poultice the wound.

The next day, if the improvement be but slight, again bleed copiously; take off the poultice, apply lunar caustic to every part of the wound; put on from twenty to forty leeches and repeat the calomel with a black draught in four hours; again apply a poultice.

If, on the third day, no considerable diminution of the inflammation hath taken place, repeat the bleeding and leeching, and give again twenty drops of antimonial wine every hour and half: take a sharp scalpel, or knife and open the wound freely; the soft, large, pointing glands may be pierced and poulticed, and the wound may be fomented; if large puffy swellings be found round the wound, they will soon collect matter and must be opened deeply and poulticed.

DIET.—Barley-water and thin gruel.

Thus treated, you may expect that in a day or two, the active inflammation will have abated, and large quantities of matter will be discharged; the pulse will become weak, the patient emaciated, and will require support from animal food and a glass, or two of good port wine.

Sometimes, however, in cutting up carrion, as for instance, horses that have died of the glanders; swellings of the neck come on, followed by unhealthy sores in various parts of the body; for these there are no remedies which are successful. There is an obvious propriety in not running the risk of infection from such sources.

TREATMENT.—Give from fifteen to twenty drops of Fowler's solution of white arsenic every four hours, and a gentle purgative at bed time.

OBSERVATION.—Should symptoms of hydrophobia arise from such accidents, let the limb be taken off, and let the case otherwise be treated as directed in the last division, (3rd.)

Should malignant pustule be produced, by inoculation from putrid carrion, refer to page 30.

CAUTION —It is obvious that men run, foolishly, great risks by meddling with such filthy and dangerous substances.

SEC. 20.—*Fifthly*, GUN-SHOT WOUNDS

May be divided into three classes;
First, Wounds from fire-arms close at hand.
Second, Wounds from fire-arms at a distance.
Third, Wounds from spent balls.

First Class.—Wounds from Fire-arms close at Hand,

Are generally lacerated, covered with grains of gun-powder and containing parts of the wadding, tightly imbedded: the edge is irregular and considerable mischief may be expected to be found not only in the soft parts, but in the bones also.

The first thing to be done, is to examine the injury carefully. If the limb be nearly shot off, there may be so much twisting of vessels and tearing of flesh that little, very little blood is seen.

Treatment.—In this case, a clean amputation above the injury, will save much suffering, and then too, the vessels having been taken up and carefully secured by tying, the danger of bleeding suddenly to death will be obviated; an accident which not unfrequently occurs in consequence of an unexpected flow of blood from a gun-shot wound, which, before this sudden burst, had sent out little, or no blood; after, treat the case as a simple incised wound, see page 48.

The Second Accident to be here noticed, is, where the flesh being lacerated, as of the thigh or. arm, the bone is splintered and the shot scattered about the wound; or the ball divided into two, or more parts on the bone, and still as you have every reason to conclude, remaining; no opening, with everted edges, appearing on the opposite side of the limb to indicate a passage through which it could have made its escape.

Treatment.—Let all the foreign substances which can be seized, be carefully removed, whether splin-

ters of bone, or wadding, or pieces of ball, or shot: but do not cut about, seeking blindly for them, and do not increase the irritation by roughly and unnecessarily probing and squeezing the lacerated flesh.

If any vessel JETS out a current of blood, secure it with a forceps and tie it. Apply afterwards warm fomentations, and bend every effort towards saving the limb. Open the bowels well with aperient pills and black draughts; if much constitutional disturbance comes on, bleed freely from the arm. Keep the limb at perfect rest.

DIET.—Barley-water.

By rigid diet, free bleeding and purgatives many limbs may be saved, which otherwise must be sacrificed. To a sailor, a limb is next in importance to his life. Continue to poultice the wound and watch the appearance, on the surface, of foreign bodies, which may be removed as they loosen and work forward.

When purulent discharge comes on, improve the diet; if the matter becomes profuse give a little port wine, or porter: should the patient's health suffer greatly, the limb must be removed, and the man of sound constitution will weather the storm and right himself speedily.

THIRD ACCIDENT.—If fingers be broken by shot, or ball they must be removed at the knuckle, leaving a little flap to close over the exposed end of the bone in the hand; the exceptions to this rule are, the thumb and fore finger, every particle of which ought to be left that is practicable, a stump or joint of either being invaluable.

FOURTH ACCIDENT.—If the hand be utterly shattered, it must be removed at, or above the wrist. much depends on the extent of the injury.

Second Class.—Gun-shot Wounds from a Distance

Are clean and small, leaving commonly, in the fleshy parts of the body, a track with two openings; that which it formed on entering, with inverted and depressed edges; that, by which it escaped, with everted and pouting edges.

If the fleshy part be thus drilled by a ball, the track, externally, is marked by a dark, thick line: often, but little blood flows and what vessel does send forth its contents is easily stopped by folded pieces of lint being placed on the mouths of the wound.

The TREATMENT consists in keeping the patient quiet: in giving a gentle dose of medicine: in retaining the lint on the opening: in keeping cold water constantly applied to the part for ten or twelve hours, and in perfect rest of the limb.

OBSERVATIONS.—(*a*) If there be much pain and swelling come on, after several hours, apply twenty leeches, or bleed from the arm, (bleed generally from the sound limb.) Foment the wound with flannels dipped in warm water; give an opening dose and low gruel diet.

(*b*) When the swelling subsides bandage the limb with a linen roller.

(*c*) When matter is formed and begins to discharge, apply linseed-meal, or bread poultices all night, and bandage and apply dry lint during the day.

(*d*) Should the ball have been left in the wound, ascertain, with your finger, or a probe, its position.

It is not necessary at *all* events, and it is often incorrect to proceed to remove the foreign body forthwith; but, should it be near the surface, although on the opposite side to that by which it entered, cut down upon it and extract it: should it be deeply lodged and firmly fixed, wait till discharge comes on, which will loosen it, and then it will easily be removed.

(*e*) If the clothes be forced into the wound with the ball, both, together, not unfrequently may be pulled out.

It is always desirable to remove foreign bodies from a wound, but, when their course has been very tortuous, and when important parts are seated near the ball, it is better to let it remain, undisturbed by violent efforts, till it alters its position, as it were, of its own accord.

Third Class.—Wounds from Spent Balls.

(*f*)There are not a few strange tales told of balls passing through the head and chest, and yet the man survived for years: often the two scars are shown in confirmation; on dissection, however, it will be seen that the ball has not passed through, but travelled round the skull under the scalp, entering at the forehead, grazing against the bone, passing round the outside of it and ultimately making its escape at the back of the head. The same is observed in the chest where the ball strikes first the breast bone.

(*g*) Grape shot, lodged in the loins, are often deeply imbedded and remain there for years. After protracted sickness and pain, extensive abscesses come on, which ultimately prostrate the powers of the body, and sometimes a ball, or several shot will then make their appearance on the surface, or in parts whence they may easily be removed, when death is staring the sufferer in the face and all hope hath vanished: many of our bravest naval men have died from accidents of this description.

(*h*) The laceration of principal nerves and blood-vessels from spent balls, with fractures of bone, will generally require that you should amputate the limb: as also fractures of the heads of bones and openings into the knee joint.

(*i*) Broken thighs with bone protruding; or any other instance, when the limb has been suffered to remain, and hectic, or mortification comes on, will also require amputation.

(*k*) The after treatment of most gun-shot wounds will be the same as that recommended under the head of bruised wounds, page 52: the after treatment of all wounds, which have been so severe as to require amputation of the limb, will be the same as clean-cut, or incised wounds, see page 48.

CAUTION.—Let a free circulation of air be encouraged in tents, or wards, or hospitals where soldiers are placed after the receipt of a gun-shot wound.

In a ship, lower a windsail always into that part of the vessel where the wounded lie; and take care of *spirits*.

Sec. 21.—Diseases of the Skin.

Itch is an irruptive disease, appearing first in the hands, between the fingers, about the wrists, it arises in small pimples with watery heads; so irritating are they that they have given the peculiar name to the disease: when the head is rubbed off from a pimple, the matter is discharged, but a little that is left forms into a dark crust which covers the head of the eruption.

Treatment.—It is generally cured with ease by applying to the eruption, every night and morning, an ointment made of equal parts of sulphur ointment and nitrate of mercury ointment rubbed together. Give a black draught or two.

In slight cases a belt of this ointment, and anointing the feet with it, and then putting on socks, so as to keep the ointment applied to the skin all day, suffices to effect a cure in two, or three days.

In very bad cases, the whole body should be anointed morning and evening, and the patient ought to be kept in bed three days. After which he ought to be well washed with soap and in a hot bath, and have a lesson of caution and cleanliness for the future

Sec. 22.—Leprosy.

Patches of red eruption form on the skin, they enlarge, become scaly; form into an irregular circle, which is surrounded by a reddish ring. The knee, thigh, elbow, or forearm are most frequently the seat of the disease.

TREATMENT.—Give six drops of 'Fowler's arsenical solution,' in a glass of water, three times a day, and gradually increase the dose to ten, or twelve drops. Continue this medicine, for two or three weeks, unless head-ache, or sickness be produced; in which case, intermit its use, for a day, or two.

The ointment, of diluted nitrate of mercury, may be applied to the part, every night and morning.

SECTION 23.—SCURVY,

Arises principally from salt diet, without sufficient vegetable food. The skin breaks out into dark spots, which ulcerate and discharge blood; the bones swell; the gums bleed, and the patient becomes greatly emaciated and crippled.

TREATMENT, is lime juice, or vinegar; fresh food, and wine, if they can be procured.

This disease is now very rare.

SECTION 24.—VERMIN IN THE BODY.

The hairy part of the body, is sometimes covered with lice; sometimes the result of filthiness; sometimes of impure connexion; sometimes spontaneously produced, shortly previous to dissolution.

TREATMENT.—Rub upon the *plain skin* strong mercury ointment, and dust the *hairy parts* with calomel

Section 25.—Guinea Worm.

A disease caused by the production and growth of a worm in the feet, ankles, and legs, not unlike tape worm. The first thing observed, is heat and redness in the part, with a peculiar itching, which is followed by the formation of a little blister: the heat, redness, and swelling increase, the blister bursts, and the fluid is discharged; then the extremity of a worm, like a cat-gut string, appears; the top being dark, almost black; the length of this painful worm, which inflames, and ulcerates the parts, varies from two to twelve feet.

Treatment.—Various have been the remedies proposed, and fatal most of them. The great object is, to remove the worm, before it dies and putrifies in the body: and the worm must be got out without breaking it, or the patient will run the risk of his limb, or even his life.

The best and commonest method is, first, before the blister rises, if you see the case, give a strong dose of opening pills, and a black draught, and apply very hot linseed meal poultices; in an hour, change the poultice, and continue to change every two or three hours, during the day and night. Let the patient be allowed nothing but barley water; in a couple of days, or thereabouts, the black tip of the worm will be seen; in an hour, a portion will be exposed. Lay hold of this part, with a pair of forceps; pull gently, till you have exposed all you can get out, without violence. Tie a piece of

Ipswich twine round the lip of the worm, and wind the worm round a piece of round wood (as if you were winding cotton); and when you have wound up all the exposed part of the worm, slacken it a bit, and leave it loose on the wound, to prevent the worm snapping in two, from *too much stretching*. Note this well. Put a piece of narrow tape, round the rolled up part of the worm, and then apply the poultices, as before. Next day roll up as much as you can, without force, and then poultice again, and so, day by day, continue your rolling, till all the worm has been rolled up; then apply poultices, give an opening dose, and in a few days the case will be cured.

Do not be discouraged, if sometimes you cannot progress, for many a case has been successfully terminated, whose progress has, throughout, been slow and disheartening.

CAUTION.—Be sure always, to see that the worm lies slack upon the wound, after your winding, when you are about to poultice; otherwise it will certainly break—an accident to be dreaded.

SECTION 26.—BURNS AND SCALDS

The best application for these, is flour, dredged on with a common kitchen dredger; and as the blisters arise, let the water be drawn off, and again let the flour be applied.

If the accident be only to a finger, or hand, a plaster, made of spermaceti spread on leather, and

firmly pressed to the part, will relieve the pain, and quickly cure the burn, or scald.

It is always prudent to keep open the bowels.

If red, spongy granulations of proud flesh rise, where the skin has been destroyed, a lotion, made of two grains of nitrate of silver and one ounce of water, will be the best thing to apply to it; a good method will be, to dip a piece of lint in the lotion, and put it on the sore: renew this application four, or five times in the day.

END OF PART THE FIRST.

PART II.

DISEASES OF THE EYE.

SEC. 1.—DISEASES OF THE EYE-LIDS, AND PARTS ABOUT THE EYE-BALL: INVERSION AND EVERSION OF THE EYE-LIDS; SWELLING OF THE INNER CORNER OF THE EYE; TUMOURS OF THE EYE-LID, AND WOUNDS OF THE EYE-LID.

Division First.—Disease of the Eye-lids, and parts about the Eye-balls,

May be considered under two heads.

First, Inflammation, from blows.

Second, Inflammation, without assignable cause.

First.—If the lids have been inflamed by a blow, and the part blackens, and becomes swollen, the application of cold water, is all that can be of any service.

Second.—But, should inflammation attack the lids, which, without assignable cause, has been preceded by an acute pain at the back of the eye-ball; a sensation of tightness in the eye, and an intense head-ache; when also, the movement of the eye-ball is followed by an increase of all the most painful symptoms, there is too good reason to apprehend

that considerable mischief is going on, not only in the eye-lids, but all the parts surrounding the ball; the eye-lids will appear as though attacked by erysipelas, and the globe, or ball of the eye will be thrown forward, and seem greatly enlarged: at this period, a throbbing sensation will be experienced behind the eye; and the pain will be most distressing. After a while some part of the lids will begin to point and will feel, to the touch, soft and containing fluid: indeed, matter will be felt fluctuating.

When this swelling is opened, or if it bursts of its own accord, the discharge may be considerable; the symptoms will be relieved and the patient feel free from pain.

TREATMENT.—The early symptoms indicate the propriety of bleeding freely both from the arm, by a vein, and from the part, by applying abundance of leeches.

Antimonial wine should be given every three hours, in doses, varying from ten to twenty drops in water, so as to create nausea, but not actual vomiting. After a few hours give five grains of calomel.

DIET.—Barley-water, gruel and tea, with a little dry bread.

OBSERVATIONS.—(*a*) The disease is so violent, that the same style of active treatment must be persevered in, to prevent the formation of matter, till all the painful symptoms about the eye have subsided: then give two grains of calomel and half a grain of opium every night till the gums are sore.

(*b*) If, however, the throbbing is felt, the eye protrudes, and the pain increases, it would be well to

apply poultices night and day, and, as soon as matter forms, open the swelling with a lancet, taking care not to wound the eye-ball.

Division Second.—Inversion, or the turning in of the Eye-lid and Eye-lashes,

Is of two kinds: one being the mere turning inwards of a few eye-lashes.

The other being the turning inwards of the eye-lid itself.

When the eye-lids have been swollen, by accident, or otherwise, the bulging of the outside skin forces, sometimes, the eye-lashes inwards.

Sometimes two rows of eye-lashes may be seen; one row bent inwards, irritating and inflaming the eye; the other bent outwards, and giving an unusual appearance to the lid, to a superficial observer.

Unless a cure be effected, the eye will be clouded, and its utility destroyed.

TREATMENT.—If a few eye-lashes only are turned inwards, take a pair of hair-tweezers and pull them out: if they again grow in this perverted direction, again extract them and, having heated fine needles, stuck on cork, to redness, introduce their points into the hole whence the hair came out, thus you will burn the gland and prevent the re-growing of the hair.

Should the eye-lid be turned in by an external swelling, pull the eyelashes out gently, enough only to alter their position: if they return, put a little gum or paste on the lid and stick the eye-lashes

down; then leech the eye-lid, or the temple; a few hours after foment with warm water and, the swelling subsiding, the eye-lashes will, of their own accord, turn out.

Should two rows of eye-lashes grow upon the lid, place the end of the finger on the top of the lid, and, with the thumb, pressing tight the row of the lashes, turn the eye-lid completely inside out; then take a very sharp-pointed knife and shave off the little bed in which the hair grows, taking care not to cut through to the other (the outside) of the lid: touch the sore surface then with lunar caustic (nitrate of silver), and a cure will be effected. This must be neatly done, or the scar will draw inward the outer row also when the part heals up.

Sometimes in attempting to cure the opposite disease, called eversion, (turning out of the eye-lid) this disease, viz. inversion is produced; to this we shall have to allude in the next subject.

Division Third.—Eversion, or the turning out of the Eye-lid.

Many gradations of this disease are observed: some slight, habitual, and little noticeable, which should be left without treatment; others again are prominent: the lash of the lower lid falling down upon the cheek and red granules prominently rising out of the inner lining.

The worst form of this disease is seen as a consequence of severe burns, or wounds of the face; a puckered scar is formed, the skin is drawn down, and

the eye, deprived thus of the protection of the lid and lashes, is liable to frequent irritations, which ultimately impede and almost destroy the sight.

TREATMENT.—When the whole evil resides in the enlarged lining membrane, a cure may be effected by snipping out a strip of this inner membrane, longitudinally, with a pair of curved scissors: when the wound heals the membrane will contract and the evil be remedied.

CAUTION.—Care must be taken not to snip out too broad a portion, or the opposite evil of inversion of the lid and lashes will be produced, which will require for its cure the snipping out of a similar piece from the outside of the lid.

OBSERVATION.—When the eversion results from large scars about the face, nothing can be done, except to rub blue-stone (sulphate of copper) on the red lining of the lid, which will improve the appearance a little and lessen the irritability. The blue stone may be applied every morning for a week.

Division Fourth.—Swelling and enlargement of the Membrane in the inner corner of the Eye,

Are of two kinds. *First*, Mild, or harmless swelling.

Second, Malignant, or fatal swelling.

Sometimes the loose fleshy membrane in the inner corner of the eye inflames, becomes red and increases greatly in size, granules of flesh seem to rise on its surface, and unless something be done to prevent it, the lucid part of the eye may become entirely covered by it.

TREATMENT.—Apply lunar caustic to it, if this arrests the growth, well: if not, let an assistant keep fixed the lower, while, with one hand, you steady the upper lid, take a small hook, and with two fingers of your left hand, raise the membrane, and then cut it away with a sharp knife. Apply cold water in linen rags.

Second, Malignant swelling of this membrane is, perhaps, nearly as common as the former.

The membrane becomes hard, has a livid hue, with a smooth, slimy surface; the parts about participate in the disease, and although the ball of vision remains untouched, both lids, in time, are involved in the mischief.

Sometimes a small spot ulcerates, or forms a sore, which rapidly involves the coverings of the ball and a frightful deformity is caused by the lids and the parts about being eaten away.

TREATMENT in the early stage consists in cutting away carefully, but freely, the whole affected part; and, if the lid be wounded, apply the lips closely together and put in a stitch or two to keep them so; then apply a slip, or two of plaster.

But if the early stage be past, and the disease has involved the lids and the parts beneath, give opiates to soothe the pain, but do not operate as all hope is past.

Warts on the eyelids may be safely seized with a little hook and cut off: afterwards apply lunar caustic (nitrate of silver) to their base.

Division Fifth—Tumours of the Eye-lid.

Little tumours, containing matter like curdled milk,

are often found inside the upper eye-lid, they are slow in their growth, cause a slight protrusion of the outer skin and, by their pressure, offend the eye.

The TREATMENT is satisfactory, simple and easy. Scrape a piece of caustic potass to a very fine point, turn out the eye-lid, by pulling the eye-lashes over the point of your first finger, or over a probe: open the tumour; squeeze out the matter, and then touch the membrane, or sac which contained it, with the pointed potass caustic; drop on a little sweet oil and put a small piece of well-oiled lint over the wound; then turn in the lid, still retaining the lint in its place, which will protect the eye-ball; in a couple of hours it may be removed. This operation never fails, if properly performed.

Division Sixth.—Wounds of the Eye-lids.

When the eye-lid has been divided, the edges should always be brought together by two or three stitches; pass a threaded needle through the edges, and then tie the two ends of the thread, bringing the divided edges of the wound close together: then pass the needle through the edges a little lower down and tie as before. A third stitch is rarely required.

Sometimes a few slips of adhesive plaster, well heated and neatly applied, are of service after the stitches have been put in.

Two or three days will suffice to effect a perfect cure.

OBSERVATIONS.—(*a*) If matter forms at the inner corner of the lower eye-lid, it may be detected by

the pressure of the finger. In the fold, or wrinkles of the lid, let an opening be made with a lancet and let loose the matter; this will often prevent the passage for the tears being obstructed, which is an unsightly and troublesome disease.

(*b*) *Blear eyes*, or redness of the edges of the eye-lids, is a common affection among weakly, scrofulous people: the eye-lashes fall off, and a gluey matter is secreted, which becomes hard and yellowish, it often agglutinates the edges and lashes of the lids during sleep.

(*c*) Blear eyes is not uncommon among men who change a cool, shady country for an open, arid one, or for a sunny, white-washed city.

Sometimes, it merely depends upon the state of the stomach, and is by no means habitual.

(*d*) There are some cases considered highly contagious.

The TREATMENT for blear-eyes consists, in applying the 'diluted nitrate of mercury ointment' every night and morning to the edges of the eye-lids; in keeping open the bowels with small doses of castor oil, or other mild aperient; in giving wholesome diet, generous food, and in removing all tarts, desserts, fruit, sweets and other, the like unwholesome things, far out of the patient's way. Fresh air and cleanliness are indispensables.

If a glare of light has caused the disease, purple, or green spectacles will relieve it.

Sec. 2.—Diseases of the Eye-ball,

May be classed under two heads.

First, Those which attack the outer coats, or coverings of the eye-ball.

Second, Those which attack the inner coats, or coverings.

The glistening coat which covers the face of the eye-ball is called the 'conjunctiva:' in its natural state it is shiny, colourless and transparent, but from many exciting causes, it becomes inflamed, which may be displayed in various degrees, according to the intensity of the INFLAMMATION, from having a few red streaks traversing it, to being completely suffused, or covered with *one bright red*, and so swollen, that the clear part, called 'cornea,' seems sunken, and is almost hidden.

Europeans exposed to a tropical sun, the reflection of whose intense light excites unduly their tender and delicate organs of vision, are very liable to INFLAMMATION of this external coat of the eye-ball; but especially so in those countries where the moon appears clear and unclouded; it has been thought that the moon's rays produce by far the most violent forms of inflammation; and the reflection of the light from white-washed walls, sand, white stone; or red, or scarlet dye, polished reflectors, and the like, will, by their repeated action cause the disease.

We must notice, in order, some of the exciting causes of inflammation of the outer coat, or 'conjunctiva:'

The first class is grains of sand, stone, iron, or

other metal; lime, gun-powder, hot fluid, strong acids, caustics and the like.

The mere mechanical, or mere chemical, or the combined mechanical and chemical stimulant excites a similar disorder in the vessels of the eye, though varying in intensity. There is first an experience of a severe smarting pain, and sensation as of a sharp body lodged between the lid and ball; on moving the eye the pain is increased, tears fall hot and plentiful, but they do not relieve the pain, except when they wash some offending matter to the inner corner of the eye, when it is easily extracted; still the sensation of some grain of sand being there remains: on opening the eye it appears a bright red, and the light is somewhat troublesome to the patient, though far less so than when the inflammation has extended to the inner coats of the eye.

The second stage may be a darkening of the redness of the 'conjunctiva,' (outer coat of the eye), when the symptoms seem to abate without treatment; the eye bears the impression of light without inconvenience; the skin and such parts of the outer coats of the eyes as are not covered with red vessels turn yellow; the tongue is lined with a dark crust; the head aches; the appetite degenerates, and the spirits are considerably depressed.

TREATMENT of the first stage. If the injury has been severe, or if it has been occasioned by the lodgment of any foreign body, as of sand, iron filing, or the like. Open the eye and turn the upper lid over a probe, by placing the probe on the upper and outer surface of the lid and drawing the eye-lashes over it;

fill a syringe with tepid water and inject forcibly, along the surface of the lid and ball of the eye, towards the inner corner: look if any annoying matter be left, if so, remove it, either by the same means, or the end of a silk handkerchief: afterwards apply six leeches to the inner corner of the eye and six or eight to the temple; then foment with warm water, that is, apply flannels dipped into warm water to the eye, and subsequently put on a warm bread and water poultice: give four grains of calomel and ten of extract of colocynth, made into two pills, at bedtime and a black draught the next morning: if the inflammation be not abated considerably in eighteen hours, bleed from the arm to fainting; apply twenty leeches to the eye, again give the medicine above prescribed: and for DIET, nothing may be allowed but tea and barley-water.

A blister at the back of the neck may do good. In eighteen hours more commence to salivate the patient, by giving a grain of calomel and half a grain of opium every three hours till the gums are sore.

The TREATMENT of the second stage, (above described) consists chiefly in regulating the *diet;* for a few days let nothing but tea, bread and butter, barley water and thin gruel be allowed; at night give five grains of blue pill, to be succeeded in the morning by a black draught. Continue this practice for four or five days and a cure will be effected.

OBSERVATIONS.—(*a*) When the injury has been severe, caused by a foreign body which acts at once both chemically and mechanically, as quick-lime, grains of caustic, and the like, after the first active

attack of inflammation, the outer coat of the eye will swell and a part will darken and be streaked with large red lines which extend to the glassy, clear face of the eye, called the 'cornea;' this glassy face, or cornea will appear sunken, surrounded by a red, raw, fleshy-looking membrane, from which a thick, yellowish discharge will flow constantly: the light will become more and more intolerable, till the cornea is completely beclouded: a feverish state comes on; the tears scald the cheek; the vision gets more and more defective: and, if no active remedies be resorted to, the sight will speedily be irrecoverably lost.

TREATMENT.—Open a vein in the arm and bleed to fainting: put on thirty leeches; blister the nape of the neck, and as soon as one blister is off, put on another. Give five grains of calomel and twenty of powdered jalap: in three hours give a black draught and when the purging has been pretty active, commence to salivate the patient, by giving two grains of calomel and half a grain of opium every three hours till the gums are sore.

Darken the room; insist on cleanliness and ventilation.

DIET.—Nothing but barley-water and tea till the man is salivated.

(*b*) In *foreign countries*, especially scorching climates, this inflammation, commencing with a sensation as of sand lodged under the upper or lower lid, is quickly marked and characterised by a discharge of thick, yellowish matter, running from the eye: both eye and lids swell amazingly; portions of the lids become everted, look raw and are covered

with the discharge which will roll down the cheek in a stream: the heat, pain, redness, and swelling are excessive; and, if active measures be not employed, the eye, or eyes burst, and the man is blind for life.

This character may be modified, and the eye, as we see in some fine men, still left, who suffered in the campaign of Egypt, may not be completely disorganised, but, nevertheless, a thick cloud vails the glassy face of the eye and the vision is destroyed: there are some few cases where the eye has cleared in appearance, yet still it rolls in vain to find the light; it remains insusceptible to the impression.

TREATMENT.—Although it is common for a man, seized with inflammation in the eye, to complain of some foreign substance being lodged between the ball and lid, even when no such offending thing be present, yet it is your duty to examine the eye carefully.

Stand behind the sufferer; take the eye-lashes of the upper lid and turn the lid inside out, upon the top of your finger: examine well, and, if any sand, or hard substance be detected, remove it: at all events, fill a syringe with warm water and inject it towards the inner, from the outer corner of the eye: having satisfied your own mind that no foreign substance is left, return the lid.

Bleed the patient to fainting: give ten grains of calomel; apply from thirty to forty leeches to the eye and put a blister on the back of the neck; in two hours give a strong black draught. If there be not a great improvement, in five or six hours, bleed again from the arm; apply a score more leeches, and

give ten grains of calomel and one of opium. When the blister comes off put on another.

If you can give large doses of tartarized antimony, without making the man vomit, it will be of great use. Commence with ten drops every two hours and increase the dose to as many as the man can bear.

Salivate the patient by two grains of calomel and half of opium every three hours. Keep the bowels open with black draughts.

If the inflammation returns, repeat the local and general bleeding. The apartment, or tent must be darkened.

DIET.—Nothing but tea and thin, barley water may be allowed.

Cleanliness is important, but no dust should be raised to risk an increase of the inflammation.

CAUTION.—Let all the dressings be burned; keep the healthy from the sick and sprinkle the room with cold water.

(*c*) There is a very similar inflammation to that last described, which is found among people suffering from 'gonorrhœa,' or clap, supposed to be produced by the contact of the eye by the finger, which has been covered with the matter, or by urine which has, by high wind, been blown in the face.

The TREATMENT is the same as that above prescribed.

SEC. 3.—INFLAMMATION OF THE CORNEA, OR THE TRANSPARENT FACE OF THE EYE.

When red vessels, traversing the white of the eye, do not terminate at the edge of the transparent face, but can be traced running into its substance, the treatment should be the same as that directed for severe inflammation in the last Section.

But often holes are, as it were, eaten in the cornea, (glassy face of the eye) which are termed ulcers: they appear like very small, whitish specks: the attention is directed to them by several blood-vessels which seem to converge to that portion of the circumference of the cornea which is nearest to the speck: on looking obliquely at the eye, these little specks will be found to be below the rest of the surface, indentations, as it were, as if caused by the rough head of a pin bored on the cornea, a keen sight will easily detect the vessels which run to the spot, and even into the ulcer, or speck itself.

The TREATMENT is, to open the bowels with a powerful black draught; put blisters on the back of the neck; give one grain of calomel and four of henbane every four hours, till the gums are sore and the saliva increased considerably in quantity; scrape a piece of lunar caustic to a very fine point and *lightly* touch the ulcer with it; afterwards drop over it a little fresh tepid milk.

DIET.—Gruel, and pudding, and eggs, and tapioca, and the like, for two or three days.

OBSERVATIONS.—(*a*) When, as a consequence of inflammation of the cornea, a cloud remains, render-

ing opaque the glassy body, it is often proper to deliberate carefully upon the cause of the inflammation; sometimes it will be the eye-lashes, which being inverted have troubled the eye; sometimes a little tumour in the upper eye-lid; ascertain this and treat accordingly: see pages 87, 90 and 91.

(*b*) Perhaps two, or three vessels will be found very large and distended with red blood, which will be discovered on turning out the lower lid; these, may be, convey blood to the part and help to cloud the eye; let them be divided by a sharp knife, lancet, or scalpel under the lid, thereby will you remove the active exciting cause; and half a grain of calomel and three of extract of henbane night and morning, made into a pill, and given till the gums are sore, and the application, by a camel's hair brush, of the nitrate of silver ointment every morning to the cloud of the eye, and putting a blister on the nape of the neck, will often wonderfully restore the organ.

The nitrate of silver ointment should be thus made, rub two grains of lunar caustic (nitrate of silver) into very fine powder and then add it to half a drachm of lard, mix them thoroughly and they will form a paste, a minute portion of which may be applied by a camel's hair brush to any speck, or cloud in the eye, once a day: it becomes less painful to the patient every time it is applied.

(*c*) When the eye has become disorganised, and protrudes most unseemly, the cornea bulging out from beneath the lids, white and conical; the contents of the eye may be let out, by passing a sharp knife through the ball, whereby the humours will be

discharged and, after a few months, when the eye has sunken and all irritation has subsided, a false eye may be fitted in.

Sec. 4.—Inflammation of the internal Structure, or Coats of the Eye.

When the external coats, or coverings of the eye-ball have been intensely inflamed, the diseased action is often communicated to the internal structure of the eye: light is very painful, often intolerable to the sufferer; a sense of aching pain extends to the head. Without any inflammation of the external coat, sometimes the internal structure of the eye takes on an active inflammatory state. The pain is very great; the fine, coloured membrane which surrounds the pupil, whose colour gives the character to the eye as either grey, blue, hazel, green, or red, (called the *iris*) becomes altered in appearance; a pink-coloured zone, which terminates abruptly at the margin of the cornea, (glassy face of the eye), is seen in this 'iris,' and a good sight will detect blood-vessels passing through this to the little *hole* in the centre, called the *pupil*: these vessels are enlarged and carry red blood.

If the 'iris' was in health hazel, it now becomes a dusky red; if blue, it becomes green.

The ball of the eye enlarges and is very prominent, and a detereoration of sight may be expected.

The Treatment is the same as that described in the second Section of this Part, under the head of Ophthalmy, or Inflammation of the External Coats of the Eye, page 94.

Sec. 5.—Wounds of the Eye-ball.

Much mischief has been done when splinters of wood, glass, stone, or other sharp substance has been projected into the eye-ball; perhaps little pain is complained of, but flashes of light are seen.

Treatment.—Extract the foreign body carefully, yet if the contents of the eye are discharged, all that can be done is to keep the patient on *low diet*, and give a dose of opening medicine: care must be taken to save the other eye, which is frequently attacked with acute inflammation; the treatment of which is described in the second Section of this Part, page 94.

Treatment.—If the wound be only very small and the contents of the eye do not escape, apply cold water, or iced water to the eye: open a vein in the arm and bleed to fainting; leech the eye, the temple, the forehead and the edge of the nose nearest the eye: keep the room dark: give a grain of calomel and half a grain of opium every three hours: apply a blister to the nape of the neck, and when it falls off, put on a fresh one: let green savine ointment be applied to the raw place, after the second blister has been applied, every night and morning.

Diet.—Barley-water and tea.

Observations.—(*a*) Sometimes men are observed, after an attack of inflammation following a wound, to have the eye turn green, whilst the other retains its wonted colour: for this nothing can be done, except the change be recent, when, indicating inflammation, it may be treated as above directed.

For attacks of inflammation of the eye which are constitutional and gouty, see page 237.

Sec. 6.—Diseases of the Nose.

Inflammation of the Nose whether internal, or external, will require leeching and fomentations of warm water: strict attention to diet, and five grains of blue pill at night, followed by a good black draught in the morning will greatly assist in restoring the part to health.

Although it is proverbial that the nose indicates the intemperate habits of habitual boozers, to cure which disease the habit must be first broken off, yet there are many, of delicate stomach, who are liable to a redness in the nose, from very slight causes, especially when labouring under mental excitement: these people should refuse hot soups, and much fluid of any kind, and attend strictly to the diet and state of the bowels.

Some folk are liable to minute red spots about the bridge of the nose, which indicate constitutional derangement.

The best remedy is two grains of blue pill with three of extract of henbane, at bed time, and an ounce of decoction of sarsaparilla, with half an ounce of lime water three times during the day; fresh air and exercise.

The internal membranes of the nose are liable to a disease which displays itself in the formation of small tumours called 'polypi,' which, although of a benignant nature, are troublesome, first, because they ob-

struct the nostrils; secondly, because they disfigure the nose; and thirdly, because they may increase at the back, or front, and become visible; or, growing back on the throat, impede the hearing.

TREATMENT.—The tumours, which will generally be found to have a small narrow neck, may often be separated with ease by seizing them with a pair of forceps and twisting them off; but if much resistence occurs pass up a probe to the base of the 'polypus,' and try to detach it from the membrane to which it adheres, especially if you can see where the attachment exists.

The operation should be conducted without violence. Many 'polypi' may be formed, all of which it may not be prudent to remove at one sitting.

If very profuse bleeding from the nose comes on, stuff the nostril with lint dipped in laudanum.

OBSERVATION.—There is a malignant polypus of the nose, which is hard, pale, giving forth a peculiarly offensive discharge, with broad base and being very painful: it is incurable—leave it alone.

SEC. 7.—BRUISES OF THE NOSE

Are very often of a serious nature. A severe blow upon the nose must not be treated carelessly: if there be much swelling of the *internal* membranes with discolouration and some hardness of the skin, a dozen, or twenty leeches should be applied, and the bowels freely relieved with four grains of calomel, five of jalap and five of powdered scammony.

DIET.—Tea and bread and butter.

If the inflammation continues, renew the leeching and physic. If matter forms, introduce a lancet to liberate it.

Unless active treatment be resorted to, the nose will be partly destroyed and great disfigurement occasioned. It is a long time before the nose forgets even a slight violence.

Sec. 8.—Fracture of the Bones of the Nose.

If the bones of the nose be broken by a fall or a blow, replace them accurately; then stuff the nostrils so that the nose does not sink, and, having cut strips of adhesive plaster, heat and so apply them as to keep the nose in its proper position.

Should inflammation occur subsequently treat the case as directed in the last Section. In eight or ten days the bones may be expected to have been united: then the plugs must be removed.

Sec. 9.—Wounds of the Nose

Should be closed accurately with one or two strong stitches and then strips of adhesive plaster applied to retain the edges well together.

If part of the nose be chopped off, let it be instantly put on and closely adjusted: then put in a stitch or two, and a strip of adhesive plaster, and the part may re-unite.

Sec. 10.—Sores of the Nose

Are of a two-fold nature:

First, Those produced by accident, and arising from inflammation.

Secondly, Those produced by mercury in a debilitated constitution.

In addition to the destruction of bone and cartilages which may ensue from ulceration, caused by blows, or injuries of the nose neglected, there is also a long standing disease of the nostrils, which insignificant injuries, slight blows, irritating snuffs, diseased gums, bad teeth, artificially fixed teeth and the like, will provoke into existence and which may become intractable.

A small open sore sometimes commences in a little crack on the upper lip, or a slight elevation like a wart on the nose; it feels hot and painful; a thin, offensive discharge is emitted, the point ulcerates, extends eating away the lip, nostril, cheek and lower eye-lid. Some of the most dreadfully diseased in face owe their disfigurement to this scourge which has been strangely called 'touch me not,' (noli me tangere.)

TREATMENT.—Give a scruple of carbonate of iron three times a day, and four grains of extract of conium at bed time. If this appears to do but little service, give of Fowler's solution of arsenic from five to seven drops in water, three times a day.

This case is detailed chiefly to afford a marked distinction between this constitutional ulceration of the nose, and a far more common affection produced by the injudicious *use of mercury* in the *venereal disease*.

It is rare that this ulceration occurs alone; it is

most commonly preceded by inflamed sore throat and ulceration of the tonsel, uvula and palate, it gradually extends to the floor of the nose, then the wall of division is attacked, then the sides of the nostrils; bones come away; a most horribly offensive discharge is sent out; the eyes inflame, the nose flattens, the palate divides, the disease extends to the forehead, intense headache comes on, abscesses form, parts of bone die, protrude, and pass away, or are removed; the ulceration may eat away a large portion of the brow; then the sides of the head take on disease, and there have been many cases seen where the deformity beggars description.

It is confidently asserted, by competent medical men, that a case of this description is never seen except where mercury has been given.

TREATMENT.—Where a virulent and long-standing venereal ulcer has been throughout treated with local, caustic applications, some cases are followed by somewhat aggravated secondary symptoms; inflamed sore throat, with small ulcers on the tonsils. Many of these may be most successfully treated by giving ten grains of the hydriodate of potassa, dissolved in water, three times a day, and a black draught every morning. Occasionally, however, the ulcers may break out anew, either in the old spot, or some new place, as the lower extremity of the bowels, or the organ *first* affected (penis), or the lips, or nose: these seem to indicate the propriety of giving a gentle mercurial course, five grains of blue pill, night and morning, till the gums are sore, and then the hydriodate of potassa, as above directed. But, where mer-

cury, doubly poisoning a patient labouring under syphilis, has been followed by the frightful secondary symptoms, extensive ulcers of the throat, gums palate and nose; the shins having become very painful, covered with hard nodes, or swellings, the patient low, feverish, hectic and half dead (a very common case); it is not difficult for any man, not blinded with the names or signs, rather than open-eyed to the thing itself, to see that mercury is then an evil. In a few days the benefit which will be produced by the use of the hydriodate of potassa is great.

The DIET should be generous, the body kept judiciously open, and the sores touched with sulphate of copper (blue vitriol), or, lightly, with lunar caustic (nitrate of silver.)

In a few days, the old venereal sore will sometimes again break out, but most readily may be healed by a solution made of two grains of nitrate of silver in an ounce of water.

If sarsaparilla be given, let it be in the extract, with the hydriodate of potassa; then take two drachms of the extract, four grains of the hydriodate, and dissolve in half a pint of milk; this dose to be taken three times a day.

SEC. 11.—DISEASES OF THE LIPS.

INFLAMMATION OF THE LIPS from blows and stings of insects rarely require any treatment; if, however, they should become severe, let the case be treated according to the direction given for inflammation of the nose.

SEC. 12.—SORES OF THE LIPS

Are three-fold: *Simple Sores; Malignant Sores; and Mercurial Sores.*

Simple Sores may be either on the outside, or inside, or the edge of the lips: they may arise from a disordered state of the stomach; when the tongue is found white and furred, the ulcers little, white specks, or patches; the mouth feels hot and the breath is tainted.

Secondly, The ulcers may arise from a sharp point of a tooth, or a blow on the lips, or chaps, or a hundred slight accidents.

TREATMENT.—The best remedy is five grains of blue pill at night, and a black draught in the morning. If the ulcers are troublesome, apply lightly the lunar caustic, being scraped to a very fine point.

Malignant ulcers of the lips are very common; they arise either in the shape of a small painful pimple, which may be fretted by the frequent use of a clay pipe, and so become an open sore, with a red and white surface, secreting an unhealthy thin discharge; or in a wart, ulcerating at its base: or in a little moveable tumour, like a pea, inside the lip, which is characterised by shootings, or sharp pain: they are, generally, easily distinguished from simple sores, and must be treated with decision from the first, or the hope of cure is very reduced.

TREATMENT.—The diseased portions must be completely cut out. Caution must be used, so to cut the lip that the edges may be drawn together by a stitch, or two, and no deformity left; the figure V is

the most common direction of the incisions, and best suited to the purpose : including, in the top, the ulcer, or tumour and the parts in the immediate neighbourhood. A piece in the figure of V being cut out, it is easy to see how the parts may be drawn together by a needle and thread, and kept in accurate junction by strips of adhesive plaster.

When the disease has been of long standing and the glands of the lower jaw, or the ear enlarged and painful, nothing ought to be attempted.

If a rotten tooth, or inflamed gums keep up the irritation in the neighbourhood, remove the tooth.

DIET.—Tea, barley-water, and light pudding.

SEC. 13.—DISEASES OF THE EAR.

INFLAMMATION OF THE EAR.—Few diseases are so painful; few more unmanageable, than those which attack the organ of hearing. An inflammatory attack of the ear will be found accompanied with the most dreadful paroxysm of pain; the constitutional derangement is great, and alarming symptoms come on. If a free discharge does not come on within a few days, relieving all symptoms, apprehension for the patients safety are not ill founded.

Where means have been employed to arrest suddenly an habitual discharge from the ears which has come on after measles, typhus, or other inflammatory fever, with affection of the organ of hearing; most commonly death ensues in short time, preceded by delirium, and subsequently drowsiness and insensibility.

TREATMENT.—From fifteen to twenty leeches should be put round the ear: fomentations with flannel bags dipped into hot water, in which poppy-heads have been boiled may be frequently applied; four grains of calomel and eight of powdered scammony must be given immediately, and followed up by a black draught every four hours. A blister may be applied to the nape of the neck and behind the ear: if the pain continues, repeat the leeching, blisters, and medicine, and, subsequently, apply five, or six leeches every other day, for a week, or two.

When matter forms behind the ear, open the swelling with a lancet; when it forms in the ear, syringe it every four hours with tepid water and keep in a piece of wool to obviate the effects of external cold. The bowels must be kept open, and a blue pill be given every other night for a week.

DIET.—Barley-water.

SEC. 14.—PAIN IN THE EAR.

This generally arises from a disordered state of the bowels.

TREATMENT.—Four grains of calomel and a scruple of jalap, made into a powder, may be given in jelly, or honey, at bed time, and a black draught in the morning.

Should the pain increase, treat as directed in the last Section.

SEC. 15.—POLYPUS OF THE EAR

May be twisted out after having passed a pair of

forceps gently up to the neck of the tumour: nitrate of silver has been used to touch the base; or red precipitate dusted on, after the little tumours have been removed, to prevent their recurrence.

Sec. 16.—Deafness.

If caused by foreign bodies which have been thrust into and impacted in the ear, these should be removed forthwith with care

Observations.—(*a*) The funny tricks of some gentlemen, who pretend to cure habitual deafness, delude their poor patients in exact proportion to the art of the practitioner and the fondness of the practised on.

(*b*) When a quantity of wax has been impacted on the drum of the ear, deafness may be caused, but is easily cured by removing the cause of the deafness (the wax), by injecting, with a large syringe, warm water into the ear; but this operation, to be done effectually, must be protracted and often repeated.

Sec. 17.—Wounds of the Ear

Are of two kinds, internal and external.

For the internal, nothing can be done.

For the external, a stitch or two may be judiciously placed and then the parts kept together by strips of adhesive plaster.

Sec. 18.—Injuries to the Head

Division First.—Bruises and Wounds of the Scalp.

No wound of the scalp, or coverings of the skull should be deemed so unimportant as to be disregarded; although the most extensive should not excite undue alarm.

Treatment.—The part of the scalp where the wound has been inflicted should be shaved; the wound cleaned; the edges approximated, and, if extensive, a stitch or two may be introduced, and then slips of adhesive plaster put on to keep the wound closed: in two or three days it may be requisite to remove a slip or two of the plaster, especially if the wound be uneasy, to allow the matter to escape freely; then dress it again, and apply, moderately, a fold or two of a linen bandage.

Should fever come on with a shivering fit, and much pain of the head with constitutional disturbance, bleed freely from the arm; apply a blister to the nape of the neck, and give a grain of calomel and four of compound extract of colocynth every three hours. If symptoms do not abate, apply from twenty to thirty leeches to the temples and continue the medicine. Take off all the strips of plaster and apply poultices.

Diet.—Tea and barley-water.

Observations.—After all inflammatory symptoms have subsided, bring, closely, the wound together with strips of adhesive plaster. Improve the diet.

(*b*) Wounds about the side of the temple and head

bleed profusely. Bring the wounds of the temple together by a stitch or two and slips of adhesive plaster, over which fold a compress of linen, and firmly apply a bandage to arrest the bleeding. The wounds about the side of the head and at the top and front of the ear, often jet out streams of red blood, and it is of importance to search the wound boldly to find the vessels which send forth this stream; then pass a needle and thread through the mouth, or round the opening, and tie it; leave one of the threads outside the wound, and close it as above ordered.

Division Second.—Bruises of the Scalp.

If a blood-vessel has been torn and the blood effused under the scalp a crepitating feel is conveyed to the fingers, not unlike the sensation produced by a broken skull; let not these tumid parts be opened, but foment with warm water and give a black draught.

But, if, several days after the receipt of a blow, matter be formed beneath the scalp, it will be felt distinctly at the top, or (as it is commonly called) it points, and may there be liberated by an incision: poultices may be applied, but it is of importance to remember, that no ointment ought ever to be used for blows and wounds of the scalp.

Division Third.—Eruptions on the Scalp.

There are six or eight distinct species of scald, or scabby heads, which are common and well known.

It will be practically useful to divide this extensive class into two orders.

First, Eruptions without venereal taint.

Second, Eruptions arising from venereal and mercurial poison.

The first kind, here noticed, is generally commenced by the appearance of small, elevated pimples, having a small, white head which breaks, discharges its contents, these accumulate, concrete and form a light brown crust; it may be, that a branny concretion falls off, or scurf is left; or yellow, elevated, circular crusts, containing the branny concretion, or scale, in the centre; or, what is very ugly, large, regular patches may cover considerable portions of the head.

The effect of all these kinds is prejudicial to the hair, which is apt to be destroyed and fall off: the constitution suffers, glands swell and discharge, and a neglected case is, by no means, devoid of danger.

The TREATMENT requires judgment: the *diet* and *general health* must be attended to.

The DIET must consist of simple food: fruits, crude vegetables, cheese and stimulating fluids must be rejected.

The bowels must be relieved and an alterative pill be given every other night, (five grains of blue pill.)

The head must be shaved, and then poulticed for a day or two: then apply, gently, to the spots, a little ointment made of equal parts of nitrate of mercury ointment and fresh lard: or, of pitch ointment an ounce and oxide of arsenic six grains: then put

on a skull-cap of oil-silk, and next morning apply a poultice.

The ointment must not be allowed to grow rancid on the head.

The iodine ointment, (a drachm of iodine to an ounce of lard, or cerate) has succeeded, sometimes, in curing the disease when every thing else has failed.

OBSERVATIONS.—There are many cases where the patient is weak, low and chachectic; it is an infamous, though common fault, to drench such an one with waters and draughts; whereas, good air, change of scene, exercise, tonics and nourishing diet are the things required.

You may expect many of these head eruptions to extend to the face, neck and other parts of the body's surface.

Second.—Eruptions arising from venereal and mercurial poison. These, most commonly, are accompanied with eruptions on the face, neck, arms, shins, or indeed the whole surface of the body.

The throat will be found more or less affected with ulcers, and the suggestions given for inflammation of the throat from secondary venereal disease may be referred to, and acted upon.

TREATMENT.—Eruptions of this nature subside without any local applications: but, when the irritation is great and the clusters of sores, collected in any part, plentiful, it is useful to poultice the part during the night and apply warm water constantly during the day; covering the rags with oil-skin: when the crusts have fallen off, and the little sores at

their base, look clean and tolerably quiet, they may be powdered with the flowers of zinc (oxide of zinc:) their cure must depend on the judicious constitutional treatment adopted for the cure of the secondary venereal ulcers of the throat.

These eruptions must be regarded as a SIGN of an internal, constitutional disease, and not as a disease itself.

Division Fourth.—Swellings about the Scalp from Venereal and Mercurial Poison.

In different parts of the scalp swellings arise, which may be felt to be soft and contain matter; they rarely arise unless there has been venereal sore throat, or eruptions on the skin, or swellings on the shins and several copper-coloured spots on the brow, arms, or legs.

The whole appearance of the patient indicates his ill condition; in the long bones he suffers pain, and complains of stiffness; the head aches constantly, the breath is offensive, the tongue white and deeply marked by the teeth: mercury has indelibly fixed the mark of ruin on the constitution, and outlived both it and the venereal disease.

TREATMENT.—The swellings may be opened and poulticed; the diet must be generous; a little wine and porter may be given: let an ounce of the hydriodate of potassa be mixed with an ounce of water, of which from twenty to thirty drops may be given three times a day.

Division Fifth.—For the Eruptions of the Scalp from the virulent Itch,

Rub on night and morning an ointment made of equal parts of sulphur ointment and nitrate of mercury ointment.

Sec. 19.—Concussion of the Brain, or stunning, or partial loss of sensibility after a blow upon the head.

Comparatively slight blows upon the head will disturb the consciousness; and the more intellectual the man, the greater the danger of concussion; sometimes the stupor is very marked; the patient displays no sign of heeding either his own trouble, or his friends around him; by repeating a question he will answer, but like a man heavy with sleep. In some people there is vomiting, and then the pulse is fluttering, the face very pallid, the breathing somewhat laborious and fainting occurs. The pupil of the eye does not contract and dilate with light and darkness; but it is common for the eyes to squint, sometimes only one eye, other times both eyes are turned to the nose.

After a lapse of time, the skin becomes warm and colour returns; the patient will yawn, or display signs as of waking from a deep sleep: these cases, the most favourable, require care.

Other cases there are where the consciousness is but slowly, very slowly restored, a degree of stupor is left, and though the pulse begins to beat sharp and

quick, the man displays little sensibility; the brain becomes active, but it is with unreal things; delirium supervenes, and much pain is experienced about the region of the head.

TREATMENT.—When you learn that a man has had a blow upon the head and is insensible, it is true you may carry your lancets with you, but pray carry them in your pocket, for, depend upon it, that is the best place for them for some time to come. The first things you will require will be your eyes and your hands. Put the patient on some inclined plane; see what is to be seen and feel what is the extent and nature of the accident. Perhaps the skull is fractured; perhaps the ribs, or collar bones; perhaps the arms: perhaps none of these evils has occurred, but simply a blow upon the head followed by a stupor, or insensibility: all in good time; a fluster and a hurry will do no good to your own wits, or your patient's: clear the coast and sit quietly down beside the patient; feel his pulse; is it feeble, fluttering? look at the face; is it pale and clammy? is the skin, or are the extremities cold? and would you bleed the poor fellow in such a state of collapse? you ought to have a round dozen if you do. If the pulse gets lower and lower, give thirty drops of sal volatile, in a little water, and commence to rub the hands and feet gently with a little oil of turpentine; if the pulse begins to rally a little, and after a time the patient wakes, as from a sound sleep to perfect consciousness, it will be well to give him five grains of calomel, and next morning a black draught: keep him on low DIET for a couple of days.

Observations.—But, if the worst case comes on, it is then, when the pulse is quick and sharp, and much excitement forward, the time to bleed, and copiously; after which, shave the head, and apply cold vinegar and water; give five grains of calomel and black draught: if needful, continue this kind of treatment till the excitement subsides; blisters behind the ears and the nape of the neck are often serviceable.

(*b*) You will find sometimes that, after all excitement has subsided, considerable insensibility remains, and bye and bye the pulse again begins to flag and the patient appears to be rapidly sinking. Keep a blister on the back of the neck and give small portions of brandy and water, alternated with sal volatile and water, every hour till the pulse again rallies. Keep wide awake and never despair.

Sec. 20.—Fracture of the Skull, with Depression of Bone.

Comparatively few cases of this nature do well. Something may be gathered of what is requisite to be done from the nature of the instrument which inflicted the injury; if it be a pointed spike, a bayonet, a sharp stone, or weapon of that description, splinters of bone may be found about the wound, and pressing on the covering of the brain; if these be not removed all chance of recovery is lost: but this can rarely be done without removing a circular portion of the edge of the bone with the trephine, to afford space for the extraction of the splintered pieces.

Fractures of the skull, caused by a blunt weapon,

such as a broken spar, butt end of a musket, or a round stone, are accompanied with depression of the broken part: the man is quite insensible and continues so while the brain remains pressed upon.

TREATMENT.—The duty is to trephine a circular piece out of the sound edge of the fractured skull, and then elevate carefully the depressed bone.

If the skull-cap, or scalp, be not divided by the blow, it must be divided by a scalpel in the shape of a cross, and the bone well denuded to give you free access to the part. It sometimes happens that the depressed portion of bone is divided into several pieces, and can be removed without taking away any additional portion of the skull with the trephine.

OBSERVATIONS.—It often occurs that the skull feels depressed, after a severe blow, and yet no bad symptoms arise. In these cases let the patient alone; keep him low; treat the case as the symptoms may indicate, and all may be well.

(*b*) Never remove any portion of the scalp, but close the wounds carefully, as directed in the Section upon 'Wounds of the Scalp.'

(*c*) When a portion of brain has escaped, remove any sharp points of bone which may irritate the membranes, and close the scalp, endeavouring to obtain its adhesion.

SEC. 21.—WHITLOW

Is known by redness, throbbing and severe pain in the end of any of the fingers. After a while the symptoms increase; the pain not allowing the patient

to rest, and extending up the arm, even to the armpit: great mischief may be done by allowing it to take its course unchecked; the palm of the hand may partake of the disease and abscesses form, deeply seated, causing a long, painful and very serious affection.

TREATMENT.—As soon as the early symptoms of whitlow arise, smear the part with lunar caustic; open the bowels freely, and give a grain of calomel, every night and morning, for three or four days: if matter collects introduce a lancet, then poultice and keep the hand in a sling.

In the severe cases, leech plentifully; foment with hot water and poultice; the *internal remedies* the same as the above.

If the fingers and wrist be very stiff, after the whitlow is gone, rub them with a little camphorated oil.

SEC. 22.—PUSTULES ABOUT THE GREAT TOE, OR FINGERS.

Small troublesome sores are apt to arise around the nail of the great toe, or any of the fingers; they discharge a filthy, redish, thin, watery fluid; there is a sensation as of burning about the sores.

TREATMENT.—If the *edge* of the nail irritates, it must be slit up, and the portion extracted by the roots: then apply a solution of lunar caustic (two grains to the ounce); the bowels must be relieved with small doses of calomel and antimony.

The DIET must be generous, and port wine may be allowed.

Sec. 23.—Globular Swellings about the Wrist, Knee, and Instep.

These are called ganglia. Much exertion, or sprains, or twists in the hands and feet give rise to these swellings; they are somewhat troublesome and impede motion.

Treatment.—The best method of cure is to bend the foot, or hand so as to stretch the skin tight on the tumour; then, with a flat piece of wood (back of a clothes brush), give the tumour a smart blow; the cyst will thus be broken, and the fluid, which it contains, may be dispersed by rubbing it with the hand. Where this treatment fails a skein of silk may be passed through the tumour and kept in for a week.

Observation.—When the top of the knee is the seat of one of these 'ganglia,' the cure may be effected by putting on three or four blisters, one after another, over the tumour, about the size of a crown piece: the same may be done to a 'ganglion' on the elbow; afterwards let a plaster of mercurial and pitch ointment be bound over.

Sec. 24.—Diseases of the Rectum, Anus, or lower parts of the Bowels.

Inflammation of the lower part of the Bowels. This is a dangerous and painful disease, and one of the most difficult to cure. Great heat is experienced in the lower bowels; the pulse is full, the head considerably affected: sometimes the bowels

are obstinately confined; at other times profusely relaxed; sleep is hardly to be hoped for, excessive pain follows every attempt at an evacuation of stools, and the bladder shares in the mischief. Whatsoever touches the parts, or causes the muscles of the bowels to move, is exquisitely painful. It is well, at this stage, if the surrounding parts and the other bowels do not share in the disease: it may be that slimy and bloody stools are passed.

TREATMENT.—Sixteen or eighteen ounces of blood may be taken from the arm; if any foreign body is lodged in the bowel, it must be removed, if practicable; leeching and fomentation should be applied to the fundament (perineum); and when matter is felt it must be evacuated by a free opening.

DIET.—Tea, and barley-water.

OBSERVATION.—There is a certain carbunculous state of the scrotum, perineum, and fundament, which sometimes follows an attack of simple clap, and comes on with little warning; the rectum, or lower bowels and fundament feel painful; the man complains of piles; on examination a hardness is felt along the urinary passage and the skin is dark; a peculiar smell is detected: in a few hours the parts become more painful, the swelling increases, the testicles become immensely enlarged; the urine is very scanty and soon, none is passed by the natural passage; symptoms become more aggravated, and, in a few more hours, the whole adjacent parts become discoloured, and the patient sinks rapidly.

TREATMENT.—The severer forms of this disease are very rapid and fatal: urine has generally been very

extensively infiltrated, or let loose in the tissues, and, however soon and effectual the openings may be to relieve the integuments, the sloughings are of such a frightful depth and extent, that the man commonly sinks during the separation of the sloughs, even if he escapes the first danger of inflammation.

It is right, whenever the symptoms indicate infiltration of urine, instantly to open the part freely; (the smell and the suppression of urine will help you to decide); then poultice, and watch every part about to score with the knife any newly attacked portion of integument and skin.

The DIET must be generous, and wine will be required during the suppuration, or coming away of the dead matter and corruption.

SEC. 25.—PILES, OR HÆMORRHOIDS

Are to be divided into three classes:
First, Blind Piles.
Second, Bleeding Piles; and
Third, Piles with excoriation about the fundament

First Class.—Blind Piles

Are little swellings which form about the verge of the extremity of the bowel either internally, or externally; they are easily inflamed, and then become tumid, hot and painful.

TREATMENT.—If the bowels are confined a good remedy may be thus made—an ounce of sublimed sulphur, twenty grains of jalap, an ounce of cream of

tartar and half an ounce of confection of senna, add a little refined honey, make all into a confection, of which let two tea spoonfuls be taken every night and morning.

A good remedy consists of equal parts of balsam copaiba and magnesia, made into five grain pills; two to be taken three times a day.

If the bowels, however, be excessively relaxed and thus the piles inflamed and produced, let five grains of mercury with chalk be taken every morning and evening, and a fourth of a grain of acetate of morphia at bed time.

Second Class—Bleeding Piles

If occasional, and not periodical may be similarly treated.

If, however, the blood flows periodically from the bowels, and no injudiciousness of diet, or any accident has produced them, the best way is to abstain from wine and liquors, live moderately during the discharge, but do not attempt to arrest the bleeding by either astringents or medicines.

Third Class.—Piles with Excoriations.

The excoriations should be touched with blue-stone, and five grains of blue pill given, for a few days, every night.

Observation.—Old piles may be removed by tying the base tightly with silk, or Ipswich twine; or threading a needle, running it through the base of

the pile, then taking the two ends of the thread and tying, first one half of the pile, and then the other; some long, small piles may, when not inflamed, be snipped off with a pair of scissors.

Fistula of the Fundament

Is a narrow passage leading from the side of the gut to some part of the fundament; mostly opening two, or three inches above the anus, into the gut and forming a tract, about an inch, or so outside the anus, or lower opening of the bowels. There is a discharge from this passage and much pain on going to stool; much itching and uneasiness in the bowel, and blood and matter stain the linen; if not attended to very serious injuries may ensue to the part.

Treatment.—Pass a probe through the external opening into the gut; put the finger into the gut to meet the head of the probe; then introduce a probe-pointed bistoury, and cut through the partition which separated the fistula from the gut, bringing out both finger from gut and knife together; prevent the adhesion of the severed parts by introducing lint; let the patient go to bed, and dress the wound every day, till the wound secretes healthy pus, and is coated with florid granules of flesh; then put on daily a piece of dry lint. Some fistulæ are very complicated and difficult to treat.

Sec. 26. Prolapsus, or Slipping down of the Gut.

When the lower part of the gut slips down it

should be gently forced up again; the motions should not be suffered to become very hard; perhaps the paste recommended for piles would be very useful (page 125.) The habitual prolaps may be supported by a crucial bandage, or prolapsus truss.

Sec. 27.—Strictures of the Anus, or lower Gut

Should be relieved by introducing every other morning a gut-bougie smeared with oil, which fits it tightly; leave in the bougie for half an hour; if no progress be made because the gut is too hard and tough, the gut may be divided with a knife and, then, recourse must be had to bougies.

Sec. 28.—Injuries to the Belly.

Rupture, or Hernia.—In leaping, wrestling, or violent exertion part of the bowel may protrude through a portion of the walls of the belly, which were designed to keep the intestines compact in their place. The part of the belly which is the weakest is commonly the part which gives way: in men, the usual form is true, oblique groin-hernia on the left side of the body; the bowel comes down in the direction of the chord by which the testicle is suspended: This passage for the chord is about two and a half inches in length in a full grown adult, and can be easily traced, by following with your finger the direction of the chord: when the oblique groin-hernia is small, and coming gradually down, it has the appearance of a bubo, but must not be mistaken for

a bubo (common swelling of the glands in the groin) or fatal results might follow. Ask the patient how the swelling came on; place the man on his back and press the swelling, gently, a little obliquely upwards; it will recede; but the tumour will re-appear when you cause the man to stand, and an impulse in the tumour will be conveyed to the hand if you cause him to cough.

Observations.—(*a*) Sometimes the hernia comes down directly into the scrotum (bag of the testicles), before even the tendency to hernia has been suspected; it is in this case that it has been mistaken for water in the covering of the testicle; but it may be easily distinguished from water by putting a candle on one side of the scrotum; shutting out all the light and trying if you can see through the tumour, which may often be done when it is only water in the covering of the testicle. If it be a rupture you may feel the testicle distinct, at the bottom of the swelling; again, generally water commences *from* the testicle and gradually ascends; rupture always begins from above and descends. Again, in a case of water the chord feels free and natural; in rupture there is a swelling in the canal of the chord; and lastly, if it be water, the position of the patient produces no effect on the tumour; if a rupture, by the reclined position and gentle, persevering pressure of the tumour upwards and outwards, as if to push it back the passage whereby it descended, you will produce a most marked effect, and in far the greatest number of cases will drive the bowel back into the abdomen, when all the parts will reassume their

healthy appearance. You will be assisted in this effort by making the man bend the leg on the side of the rupture and cross it somewhat over the body.

(*b*) There is a variation of this groin-rupture called direct groin-rupture; it is caused by the bowel bursting through part of the walls of the belly, immediately behind the lower opening of the passage of the chord, by which either testicle is suspended; this, like the former, soon finds its way into the scrotum, or bag of the testicles; it may be distinguished much in the same way as the former from the various diseases of the parts about, and gentle pressure on the tumour, when recent, will return it into the belly and the hole, whereby it issued may be easily felt with the finger.

(*c*) There is a third kind of rupture we shall mention, though it is not so common in men as women, and that is ' femoral hernia, or hernia in the bend of the thigh; it is the more likely to be mistaken for a swelling of a gland in the groin, but, unlike the gradual swelling of a gland, it comes on in a sudden manner with a jerk.

It is of importance to distinguish this hernia of the bend of the thigh, from rupture of the groin; it must be steadily borne in mind that the rupture of the bend of the thigh, is *below* the passage of the chord; the rupture of the groin, *in* the passage of the chord: in one case, therefore, the passage will be distended and filled; in the other, natural or slightly compressed: these, with the before-mentioned observations, will suffice to determine in your mind the nature of the rupture.

TREATMENT OF RUPTURES.—The first thing to be done in recent cases of hernia, or rupture is to push back the tumour into the belly, and then stop up the passage by keeping it constantly pressed upon with a proper pad, called a 'truss;' this truss must always be worn in the day time, but it may be taken off when going to bed; great care must be used in ascertaining that the rupture be not down when the truss is put on, otherwise the gut may become inflamed by pressure.

The best position to put a patient, in order to push back the rupture, is on his back; the buttocks being raised and the shoulders also raised; thus the back of the body will be bent downwards: order the man to keep OPEN his mouth, that he may not be able to resist your efforts; bend the thigh on the body, turn the knee a little in the line of the centre of the body; then take the tumour in your hand, and by steady and continued, though by no means violent pressure, begin to push up the tumour, in the direction of the passage of the chord of the testicle, which is upwards and a little outwards: if difficulty be experienced, press the tumour with one hand and, with the fingers of the other, take the part of the rupture nearest the lower opening of the passage, and begin to poke up bit by bit, as if making indentations on dough, or puffed veal: this is, supposing the rupture to be oblique-groin-hernia. When ALL *the tumour* is gone up put on a truss; or keep the patient in bed till one can be procured, or a good substitute made, for the present.

In direct groin-rupture the pressure is to be made directly backwards, and a little upwards.

In rupture of the bend of the thigh, the pressure must be made a little downwards and inwards, first, so as to bring the body of the tumour in the direction of the neck of the tumour, and then press it upward.

A man with a rupture should always wear a truss except when a-bed.

To describe the operations for hernia would be useless in this little work; extending it beyond our design.

Sec. 29.—Diseases of the Genital Organs.

There are many causes which may produce symptoms similar to venereal disease. A peculiarly acrid, irritative state of the stomach; cutting of teeth; a small stone in the passage from the kidney, or near neck of the bladder; some weakness in the female; some peculiar diseases of the skin suddenly arrested. A purgative dose, or two, a warm bath and bland diet will be the best treatment for these, generally.

The best informed men may sometimes mistake a running from the end of the yard, produced by any of these exciting causes, for a clap, and not be obnoxious to censure; still habitual caution will generally lead him to a pretty accurate judgment upon the majority of diseases of the genital organs.

SEC. 30.—CLAP OR GONORRHŒA.

The appearance of a discharge from the passage through which the urine passes, to which the name of CLAP is applied, generally is noticed within eight days from an impure connexion; some show these symptoms of clap much earlier, some considerably later.

It commences with a heat and itchiness at the end of the 'yard' when making water, which increases gradually till a painful tingling is experienced all along the passage; anon a whitish matter is seen about the end of the yard, and it begins to look inflamed, and becomes swollen; next day the discharge increases, and assumes a darker hue; the water passing is attended with great pain and scalding, and, on the point of emptying the bladder, the pain is sharp and cutting; all these symptoms go on increasing in intensity; the discharge now becomes yellow, or greenish and increases in quantity.

When the patient is warm in bed involuntary erections of the yard come on called 'chordee,' and, from the effort made to extend the inflamed passage, the pain is very acute and the organ is curved, or bent downwards; sleep, in these cases, is hopeless. Where this chordee is frequent and severe, it is not uncommon for the yard to bleed pretty freely: scalding in passing the urine is, at this stage, a most distressing symptom.

It is common now for the foreskin, which covers the nut, or glans of the yard, to be so swollen that it cannot be drawn back, and when by accident it

has been, at an early stage, drawn back, not to be brought forward again.

The common effects of clap are confined to within three inches of the extremity of the yard, but sometimes the whole passage takes on inflammation; in these cases the bladder becomes affected, there is a frequent desire to make water; the lower parts of the bowels become irritated; piles come on; the patient feels unable to sit; there is much pain about the region of the kidneys; heat, thirst, restlessness and fever succeed.

OBSERVATIONS.—(*a*) In the general cases of gonorrhœa, or clap, where no imprudent diet, or neglect of treatment has occurred, such severe symptoms are very rare. In, from fourteen, to twenty-one days, the pain, in making water subsides; the discharge becomes thicker, whiter and less abundant; temperance, cleanliness and firmness in obeying directions will safely complete the cure, in a few days more: this being so, one would have thought clap the easiest disease to cure of all which come under medical superintendance; yet there is no disease which more perplexes the medical man—no longer catalogue of miseries can be tacked, to any disease as consequences, than to clap.

(*b*) The consequences of neglect, or disobedience in the patient, or mismanagement on the part of the medical man, may entail YEARS AND YEARS of disease on the patient, bring him untimely to his grave; reduce him as well in fortune, as in moral and physical energy: this will be abundantly exemplified when writing about 'Strictures of the Urinary Passage.'

TREATMENT OF CLAP.—The disease should not be allowed to gain ground before treatment be resorted to, to arrest it; it will no more run itself out than a river will run out and leave its bed dry whilst you linger on its bank.

As soon as the early symptoms of clap display themselves, gruel DIET should be enjoined; an ounce of salts in a tumbler of water; the parts should be fomented with warm water, and the patient should be kept at rest, at least all violent exercise forbidden.

He must abstain from any indulgence in venery, liquors, meat and wine; if there be much irritation about the parts the crotch (perineum) should be leeched and fomented; abundance of linseed tea, with a little sweet spirit of nitre, may be given, and, in a couple of days, commence the use of the 'balsam of copaiba' internally, a teaspoonful to be taken in a little water, or honey twice in the day. If the capsules of the balsam be used, from two to three may be taken three times a day; with every dose of balsam of copaiba, fifteen grains of carbonate of magnesia, or ten grains of 'calcined magnesia' should also be taken, and two teaspoonfuls of Epsom salts every morning.

Linseed-tea should be the greatest part of the DIET.

Should the foreskin swell, it should be raised to the belly and so confined.

Let this treatment be continued for a week after the discharge has discontinued, and still let imprudence of diet and exercise be avoided, and the cure will prove complete.

Sec. 31.—Continued Clap.

But clap, from various causes, an ill habit of body, inattention to prescribed rules, carelessness, intemperance and the like, may become long-standing and be then, for the first, known to the practitioner. It will be in one of the following stages:

The protracted, irritable clap.
The dull, profusely-discharging clap.
The virulent gleet.
The watery gleet.
The chronic, long-standing gleet.

Sec. 32.—The Protracted Irritable Clap.

Sometimes, for months, the severe symptoms of clap will continue unabated; pain in the parts, scalding in making water, irritable erections, called chordee, and constant discharge of ill-conditioned, yellowish, or greenish matter; the stream of the urine will be found considerably thinner and twisted, or scattering.

Treatment.—These cases should be treated very actively; there is considerable mischief to be feared from neglect.

Be assured something is wrong; either the diet; or some vile habits; or violent exercise; or intemperance of some description.

Order a dozen leeches to the perineum, or crotch; perfect rest; gruel diet, and linseed tea. Mix together two drachms of balsam of Copaiba, two drachms of cubebs, two grains of opium, two scruples of car-

bonate of magnesia, and make this into a conserve with a little honey.

This will make six doses, one of which may be taken three times a day.

By the third day a most marked improvement will appear in the patient; if there be then any pain in making water, continue the low diet and rest; dissolve two grains of nitrate of silver in four ounces of water, and, with a bone syringe, let the patient inject into the yard a syringeful, three times a day; let the injection remain for four or five minutes, at a time, and then run off; afterwards let the patient remain quiet, for a time, and not make water for a couple of hours. When he injects the fluid let him hold the yard firmly with the thumb above, and the fingers below, about two inches from the end, to prevent the fluid running back into the bladder.

When all irritability has ceased in the part, if any running remains, the clap must then be treated as a chronic gleet, (see page 139.)

Sec. 33.—The Dull, Profusely-Discharging Clap, or the Virulent Gleet.

There is no pain in making water; rarely, if ever chordee; and no particular irritability in the part; but the discharge is profuse and shows no disposition to abate.

The greatest difficulty, in this case, is to induce the patient to obey directions.

Treatment.—*Gruel diet* for a day or two, and perfect rest would prodigiously improve the state of

the organ; order linseed tea and a teaspoonful of spirit of nitre, three times a day.

In a day or two, when you shall find the discharge has considerably abated, dissolve twelve grains of acetate of zinc in eight ounces of water, and let a syringeful be injected, three times a day.

See above directions for using injections, page 137.

In a few days this injection may be changed: it will be time to give the man meat for his diet; but insist on his abstaining from wines, peppers and liquors; he may now use 'sulphate of copper,' twelve grains in eight ounces of water, for an injection; and a week or two will suffice to restore him perfectly, provided no imprudence in *diet*, *exercise*, or *habit* reanimate the almost expiring disease.

Sec. 34.—The Watery Gleet.

Sometimes, after the clap has entirely disappeared, the part discharges a little, thin, transparent fluid, which hardens on the linen but does not stain it.

The best TREATMENT for this is healthy exercise; healthy and clean habits; abstaining from venery and spirits; a moderately nutritious diet; a glass of good port wine, and, if seasonable, sea bathing.

Sec. 35.—The Chronic, or Long-standing Gleet.

This is often a very complicated disease and inexpressibly tedious and intractable; some are met with complicated with a strictured state of the passage, of very many years duration, and every time the patient

gets but of health, increasing to a most distressing extent: when the stricture becomes quiet, and the passage in its most favourable condition, the patient is troubled with repeated involuntary emissions, and a constant running of whitish, glutinous matter; the urine passes in a straight, fair stream; but the organ continues to discharge: every remedy heard of, every injection in use, may be tried, but no effect is produced. In desperation he has connexion, or marries to be sure of not having infection; the next day a profuse discharge of yellowish matter comes on; he passes urine well enough; he says the stream is greatly improved; Sir Benjamin Brodie's full-sized, prostatic catheter will pass into the bladder; but still there is that everlasting gleet; confine to bed and starve him; let him take moderate exercise, and feed him well; still no amendment, no symptom that can be relied upon; bleeding from the part and blistering will abate the discharge: but in a day or two he is as bad as ever. Seetons, and blisters, and rest will again improve the state of the passage, but the first time he has connexion the discharge returns.

After a catheter has been passed with great care, for several times in succession, at the intervals of a few days, the passage, without assignable cause may be found so irritable and narrow, that the catheter can, by no means, be introduced; and the attempt though executed with great gentleness, is followed by an alarming discharge of blood: the bladder is loaded with blood at the time and clots stop up the passage. In this state you are required to pass catheters to draw off the urine for two or three days;

the patient keeps at perfect rest and to gruel diet; and again the parts become improved, but not permanently. In short, with the strictest rules of action, and the most persevering prudence, the patient may be greatly benefitted, but cannot be perfectly cured, at best not for years; and he will to the day of his death have an irritable and impaired state of the bladder and urinary passage.

TREATMENT.—There are very numerous cases of long-standing gleet which result from an irritable and debilitated state of the passage; the stream of urine is scattered, or screwed and narrower: the nose, or lips will be sore, red, irritable. It is of importance to regulate the *diet*; forbid every stimulating substance, especially pepper; insist on PERFECT abstinence from sexual intercourse, which will not fail to increase the disordered state of the parts. Order the patient five grains of the 'uva ursi' and a quarter of a grain of morphia, morning and evening, and linseed tea during the day: as soon as the parts are pretty quiet, introduce a well-curved catheter (No. 10), slowly, and without any kind of violence; keep it in as long as the man can bear it; and repeat the operation after two or three days. All the gleet will soon disappear; and prudence, firmness, and regularity, on the part of the patient, will render the cure permanent and complete.

OBSERVATIONS.—(*a*) There is another kind of gleet produced by an excess of sexual indulgence; it first displays itself in a running, something resembling a clap; it is treated as a clap but ineffectually: the early stage may be arrested by some powerful injec-

tion, acetate of zinc, twelve grains to half a pint of water; but subsequently, a part nearer the bladder may take on disease, which displays itself by no other symptoms than secreting little, white threads, which float on the top of the patients urine from half to two and a half inches in length, and the size of pack-thread.

This case will take months and months to treat safely and effectually; the means above ordered, should be adopted and the man must on no account be allowed sexual intercourse, or much mischief may ensue. It is not improbable that on the introducing a full-sized catheter, a running may come on and then all these floating bodies will disappear, after having made water: if the running does not abate, after the catheter has been introduced ten, or twelve times, again resort to the injection and a good dose of purgative medicine; this will arrest the running, and, probably, again the urine will have these little threads, but not so numerous as heretofore: apply then to the crotch, or 'perineum,' a dozen leeches; afterwards apply a blister to the part and repeat it, if the floating bodies cease not to appear with the urine. Good moral habits, firmness and prudence in diet will effect a perfect cure, though not suddenly.

(*b*) Many cases of gleet are complicated with a diseased and thickened state of the passage called stricture, and cannot be relieved till the stricture is cured. These are treated in page 165.

Sec. 36.—Clap of the Fore-skin.

This discharge from the inner surface of the fore-

skin and nut, or glans of the yard is not uncommon in cases where the fore-skin is tight, after a gleet has been partially cured; but it may also occur without venereal taint.

A thick discharge accumulates under the foreskin and there concretes; the fore-skin and nut look irritable and, sometimes, little sore patches are discovered, after removing the secretion by washing: the best TREATMENT consists of a solution of nitrate of silver (two grains to an ounce of water) with which the part is to be kept always moist, by laying a piece of lint between the nut and prepuce wetted with the lotion.

The organ must be *raised* and *confined to the belly*.

Often a stricture of the passage complicates this clap of the fore-skin, and until the former be cured the latter is intractable.

SEC. 37.—SWELLING OF THE FORE-SKIN.

During a bad clap, or pox, or after leeching the parts about, great swelling of the fore-skin is apt to come on, with discolouration, red, or blue.

The TREATMENT must vary according to the nature, or cause of the disease.

The organ must not be suffered to *hang down*; it should be raised to the belly, and, in almost all cases, where clap or leeching has caused the swelling, the part will be restored soon to its natural appearance.

When the inflammation, from the natural tightness of the organ and disease, has run very high, it is sometimes necessary to slit up the fore-skin, which

should then be poulticed and it will be found that extensive ulceration has occurred on the inner surface. These ulcerations must be treated as *simple* ulcers, or *venereal*, according to what gave rise to them. When the swollen fore-skin covers the glans or nut, the disease is called 'phymosis.' When, from the matter flowing, you expect ulceration to be going on, let a lotion made of sulphate of zinc, a drachm dissolved in a pint of water, be injected three, or four times a day; a little of this lotion from a common pewter syringe will answer every purpose: give a little salts; order *low diet* and rest; and a cure will be effected speedily.

But when the fore-skin has been drawn back, and inflammation has run high, draw the fore-skin over the nut, if possible; by pressing the 'glans' it may be reduced in size and will often prove no such difficult matter to drive back into its proper position. The organ must then be raised to the belly, and all will go well; but, if the skin cannot be gotten over, it will be no difficult thing to see the band which prevents this; which it will be your duty to divide; a poultice may be put on and the case treated as the former. This disease is termed *Paraphymosis.*

Sec. 38.—Clap Eruption.

This eruption, very similar to nettle-rash, is traced in patients labouring under clap, especially when neglected: it is sometimes a difficult thing to manage. It has been thought that 'balsam of copaiba' produces it: but it appears sometimes without the ex-

hibition of the balsam, and is removed by its use; sometimes, assuredly, it rises whilst using the balsam and disappears after the balsam has been discontinued. There are certainly two kinds of eruptions, the milder class is, perhaps, produced by balsam copaiba. Some cases will last from four to seven days and, when the patient appears to be getting well of both the clap and eruption, the hands and feet are found to swell and to be mottled; the heat is great; the pain and itching intolerable; standing is not to be endured; the head is hot; tongue feverish: after the fifth day the swelling subsides; the skin of the soles of the feet peels off; the hair begins to leave the head; and, if not close cut and attended to night and morning, either washed with vinegar, or anointed with lard, will leave the patient partially bald.

It is better, when this eruption comes on during the use of cubebs, or copaiba, to discontinue it, and order twenty drops of antimonial wine three times a day; when the eruption has ceased order a warm bath; and cure the clap by the injection ordered in page 137.

Sec. 39.—Pox, or Chancre.

Ulcers, or open sores about the nut (glans) of the yard, or fore-skin, or external coverings of the yard, following an impure connexion, have received the name of pox.

We are not warranted in treating pox in the light, off hand way which is fashionable in this day, with those gentlemen who have been wont to see only a

very mild and simple form of sore, easily cured by most simple local applications.

Pox does sometimes assume a form so frightful; and so work its way into the heart of a man's constitution, as to leave him, for years, often for life, diseased and ailing. No case ought to be neglected, whilst the severest forms of the disease task the utmost skill of the acutest practitioner.

Three classes of venereal ulcers, or sores, called 'chancres,' must be here noticed.

Sec. 40.—*First*, Simple Venereal Ulcer, or Spurious Chancre.

This may occur in the outer skin, or the nut, or fore-skin; most frequently it is to be observed about the band which unites the lower part of the nut to the fore-skin; it commences, ordinarily, in a little pimple, which in a day or two, bursts and discharges; an ulceration then seems to go on, excavating the sides and base of the pimple, and a common venereal sore is produced: at this period it is not uncommon for the glands in the bend of the thigh, to swell and, if the sore be not treated judiciously, the glands may go on to form matter and a 'bubo' is established.

All simple venereal ulcers arise not in the form of pimples; some, in a simple, ragged, abraded form, as if a little of the delicate skin had been grazed: the sore shows a disposition to excavate and enlarge; it is painful, and has a dirty, yellowish-white surface, with a red irritable edge though not hard, or well defined.

The TREATMENT best adapted for this case is to touch LIGHTLY, VERY LIGHTLY with *nitrate of silver* (lunar caustic), the surface and edge of this ulcer, and give a dose of castor oil, or senna tea: next day make a solution of six grains of corrosive sublimate, (bichloride of mercury) in thirty drops of muriatic acid and two ounces of water, and let a piece of lint, dipped in this lotion, be kept upon the sore; changing the lint every hour, or so, to prevent its getting dry and sticking to the part.

It will be judicious to touch the sore with lunar caustic at its deepest spots occasionally, especially if it continues painful.

Keep the man on *low diet* and give a dose of opening medicine every day. When the sore improves, order meat once a day. When the part is perfectly healed over, give five grains of blue pill every night and a black draught every other morning, for ten or twelve days. After this let the patient resume his *wonted diet*.

If buboes form, this treatment may disperse them; if it does not, let them form, and open them, when matter can be felt fluctuating in the gland; then poultice; they will give you but little trouble, if you treat the patient as directed above.

SEC. 41.—*Second*, SIMPLE BROWN VENEREAL ULCER, OR SORE WITH DARK SURFACE.

This is most frequently seen on the edge of the fore-skin and will surround the extreme verge of the fore-skin, so as to be very troublesome to heal; and,

when healed, diminishes so the opening of the foreskin, that it will be difficult to draw it back, and will be very liable to crack on connexion; thereby causing some additional danger of infection: it is not a deep, or very extensive sore; but is often difficult to heal; if it be treated as malignant pox and the patient be salivated, often a whole line of buboes forms in the bend of the thigh, which, one after another, inflame, ripen and burst; at the expiration of a few months the patient gets into ill health, looks hectic, and, if any latent consumptive taint be in him, begins to be harrassed with pulmonary symptoms and sinks rapidly.

It may be readily distinguished by its superficial ulceration, brown surface and thin edge, elevated and defined, but not hard, or pale: it rarely ulcerates below the surface of the parts about, and does not extend fast, or far.

TREATMENT.—The part should be poulticed for a day; then LIGHTLY touched with nitrate of silver, and kept wet with the lunar caustic lotion (two grains to an ounce of water); the bowels should be kept open with castor oil, or a black draught every other morning.

DIET.—Meat must be allowed, but no spirits, or wine, or beer.

If no mercury be given the glands will probably be but slightly swollen, and soon subside: at any rate, they may be safely permitted to take their course and, if any should ripen, let it be lanced and then poulticed. Porter, at this stage, must be given;

and, probably, even a glass or two of port wine; rest must be insisted on, while the glans are inflamed.

Much care will be required throughout, not to reduce the patient too much; mercury in all its forms is injurious in this case.

SEC. 42.—*Third*, TRUE POX OR, TRUE VENEREAL SORE, OR CHANCRE.

This, like spurious chancre, may arise in the form of a pimple on the outer skin of the yard, the inner surface of the fore-skin, or the nut: but it may be distinguished, when the ulcer appears, by its rounded form, thickened and hardened, abrupt edge, deep ulceration and the brown colour of the matter which covers and adheres to the sore; it is, as if with a small wadding-punch, one had stamped out a circular piece of the skin: it feels as though you had let into the skin a piece of coin; so round, so hard, so abrupt, and circumscribed in its hardness.

The buboes, resulting from true venereal sore, or chancre, are often of a nature which require active remedies.

TREATMENT.—Apply, to the inner surface of the edge and the whole face of the sore, the lunar caustic, with a slow and unsparing hand; touch *patiently* every part, and not very *lightly* either; but as if you intended to destroy all the surface by cautery: in a few hours put on a poultice, and give a good black draught; insist on perfect rest, and, if the groin has become swollen, apply a dozen leeches: after the poultice has brought away the destroyed matter from

the sore, order a lotion of lunar caustic (two grains to an ounce of water) to be kept to the part.

Insist on *gruel diet*. Repeat the black draught; and, in a day, again look at the ulcer; if any part looks a pale yellow, it is doing well; continue: if a part looks brownish, again touch it lightly with lunar caustic; poultice in two hours; and again use the lotion: gruel diet must be persevered in, and black draughts repeated.

In thirty hours, again look at the ulcer; if the whole surface be improved; all secreting healthy, yellowish-white matter, let the patient have pudding; and attend to the bowels. The 'BUBO' by this time will have subsided greatly, or must be left to come to a head. Continue the lotion and you will find the edge less hard; the hole filling up, not so deep; in a few days, touch it *lightly* with caustic, (for you will find granules of red flesh rising). You may now permit a little animal food to be taken: keep the bowels open. As the ulcer goes on, improving rapidly, contracting, yet not quite healed, commence the use of five grains of blue pill every night and morning, (but not before, never before, if possible to make progress*). Continue your lotion and, persevere in the blue pill till the patient feels, on rising from his bed a copperous taste. Then resign the use of the blue pill: keep open the bowels with castor oil, and order a little porter with the dinner. All will do well.

* *Sometimes* it is *requisite* to begin the blue pill *earlier* than is here recommended.

Sec. 43.—Black Pox, or Indian Chancre.

Is a most dreadful disease: it arises in two ways; first, in the appearance of a little round black point, not larger than half a pea; hot, but not painful; it gains size alarmingly, and, if not instantly treated with vigour and skill, destroys, by black mortification, a large portion of the organ, which begins to separate and leave a mutilated yard with open sore; this sore eats on and on, and in comparative few hours the whole organ is lost. 'Buboes' form in the groin, which assume, somewhat, a similar character; the man sinks: or, after dreadful mutilation, recovers slowly to suffer a long train of secondary symptoms, and drag on a loathsome life, a short term of miserable years.

Or, black pox may arise in form of a little pimple, which, when it bursts, pours out a little matter, and a large quantity of blood, which flows apace; the sore, which is left, is deep and extends rapidly, or, if inclining to heal, the man is alarmed at beholding a new sore established, either in shape of grazed skin, or little pimple, which, taking the same course, is succeeded by another and another, till the whole organs of generation are a mass of disease, and, ultimately, destroyed.

Buboes and secondary symptoms, of the worst description, follow in the rear, if the patient recovers.

Treatment.—In the early stage of black pox, the part affected should be burnt, either with a red hot iron, strong nitric acid, or caustic potass; nor need this burning be very sparingly applied; it should be

so done, as entirely to destroy all the surface and edges of the pimple, abrasion, ulcer, or black spot.

If nitric acid be used, it should be with a camel's hair pencil, or glass rod, dipped very frequently into the acid, and so put, plentifully, on the part; if caustic potassa, the stick should be pointed and it should be slowly introduced into the pimple, or spot, and the entire walls and depth should be well and thoroughly burned; the same if heated irons be employed.

It is well, immediately afterwards, to open a vein in the arm and bleed the patient to fainting. Give from fifteen to forty, or sixty drops of antimonial wine every three hours (as much as the patient can take without actual vomiting), and, in two, or three hours put on a poultice.

Observations.—(*a*) It is probable that there will be considerable loss of blood from the parts as the burnt mass begins to come away; let not that alarm you: watch well if any new pimple arises, or any fresh black spot; treat that as the former. Open the bowels with a strong black draught and continue the antimony, till the ulcers begin to look healthy, and secrete a thick, yellowish discharge.

(*b*) It is probable that you will have to repeat your bleeding, two or three times: the patient must be strictly confined to bed; gruel should be the only diet; air and free ventilation are indispensable; the room must be kept the pattern of neatness; everything used by the patient should be destroyed.

Buboes *will* arise; and delirium may be expected. If the buboes point, and are studded with two, or

more black-tipped heads, apply, freely, the caustic potass to the spots.

(*c*) Mercury can do nothing but mischief at present; it will only increase the disease, aggravate the secondary symptoms and mutilate the patient.

Bleeding, and burning, and starving, and a plenty of antimony, is the only treatment for the early stage of the disease.

(*d*) When the burnt parts have all been removed by warm poultices of bread and water, and, when the sores begin to assume the appearance of simple ulcers, a useful lotion may be made for them by dissolving two grains of lunar caustic in an ounce of water, with which they should be always kept moist.

(*e*) About the nature and treatment of the secondary disease, the eruption, sore throat and skin, ulcers about the body, etc., notice will be taken subsequently, in pages 155 and 156.

(*f*) If no mercury hath been given till the sores about the part are beginning to heal up, and till the sore throat and eruption begins to die off; the *diet* may be improved; a little meat may be allowed, at this stage, and fifteen drops of nitric acid be given, three times a day, in a glass of water; add to this a quarter of a grain of acetate of morphia, at bed time.

An ounce of castor oil must be given occasionally, to open the bowels, and, when the patient is sufficiently recovered to take the air and begins to get strength, let him take half a grain of calomel and half of opium, every night and morning, till his gums are sore.

(*g*) It is a fact that, in those countries where mer-

cury is not given in the early stage of the disease, black pox, though formidable, rarely proves fatal; and rarely is followed by secondary symptoms, so severe as to mutilate the patient.

Sec. 44.—Pox Eruptions, and Secondary Sores.

Formerly, secondary sore and pox eruptions were as formidable, at least, as the very worst primary, or chancre; but now, except when mercury has been given in the early stage of the pox, they are more easily cured and are far less dangerous.

Every form of pox has its peculiar eruption and secondary symptoms: the injudicious use of mercury has the peculiar virtue of rendering the *simplest* form *severe*, and the *severer* forms *unmanageable*.

The eruption, peculiar to the *simple venereal ulcer*, is like common pimples, without heads, gradually spreading over the breast, neck, face, arms, and legs; the eyes are red, the throat swollen; tonsils inflamed; but, if the case has been treated according to the directions given above, there will not be found ulcerations; nor will the fever, attendant on the skin eruption, be very severe.

It is not at all uncommon to find fresh crops of pimples arise, as the former crop dies off. It should be always borne in mind, the eruption is rather a favourable symptom and should *on no account*, be repelled. It, by no means, complicates the case, except when the system has been saturated with mercury.

Treatment.—If it occurs at midst, or the termin-

ation of a case of *simple venereal ulcer*, the blue pill may be given as directed, and the *diet* must be for the first day or two, *gruel*; the patient must be kept in bed and the bowels relieved with castor oil, or black draught; when the eruption shall have subsided, which will be in a few days, give twenty-five drops of the following solution, in a wine glass of water, three times a day for twelve or fifteen days: an ounce of hydriodate of potass dissolved in an ounce of water.

If, however, the patient has been salivated, and this eruption comes on subsequently, the fever will be severe; the throat ulcerated; the pimples will form into pustules, the heads of which will break and form into a crust, which will conceal ulcerations and leave brown spots behind, when healed up; the solution of the hydriodate of potassa must be taken as above directed; and the ulcers of the throat touched with sulphate of copper, every morning; the DIET may be liberal; meat and port wine, in moderation, will do good.

For all skin eruptions, salted meats and seasoned foods must be prohibited.

The skin eruption which accompanies TRUE POX is well defined; the skin looks mottled and patches of brownish-red stud the surface of the body; the edges of the patch are raised above the surface, and the head flattened and partly covered with little white scales; the edges begin to sink, and the whole patch is covered with scales, which, falling off, leave behind a purple round spot, which is lower than the adjacent surface.

In severe cases, the eruption is more elevated, and angry; the scales become crusts, confining matter, which, having been discharged, show deepish sores; these leave their marks behind for life.

The throat is much swollen, deep ulcerations are seen in the tonsils, extending to the palate; the breathing is a little difficult, and the voice considerably impaired.

TREATMENT.—If the patient has been saturated with mercury, and these symptoms arise, whilst he is under its influence, order him the solution of hydriodate of potassa, as above directed; touch the *deep* parts of the ulcers with lunar caustic, and the *superficial* sores with a *solution* of the lunar caustic (two grains to an ounce of water): animal food, and port wine may be given with advantage: open air, and moderate exercise, and the bowels to be kept open with castor oil. No more mercury; the man has had too much already.

But, if the scaly eruption of true pox has come on before mercury has been given, or a few grains only; give ten grains of blue pill, and a grain of opium every night; touch the ulcers with lunar caustic; order *low diet* for a day or two, and, when the man is getting well, order the solution of the hydriodate of potass: discontinue the blue pill when the mercury has touched the gums. Keep the bowels open with occasional black draughts.

The secondary eruption which follows any forms of Indian, or black pox are formidable.

Large elevated pimples form, ulcerate, discharge and become covered with incrustations, which are dense,

dark and like a high cone; round the edge of the base of this cone, an irritable ulceration extends, widening into a large circle; the cone falls off, and another crust forms in its place, larger and higher: there is considerable constitutional disturbance; the throat has deep ulcers, or sores, extending through the tonsils; eating the uvula, soft palate, and sides of the throat: the nose discharges a fœtid, thin matter; bits of bone come away; the breath is intolerable; the eyes look swollen; the sides of the nose patched with thin abrasions; the bridge is flattened; the roof of the mouth cleft; the voice inarticulate; the power of swallowing greatly impaired; the wind-pipe, often, now partakes of the disease; the joints become swollen; bones covered with nodes; sleep is banished, and no longer can be procured, even partially, with prodigious doses of laudanum; death comes tardily to terminate the sufferings.

TREATMENT.—Where a case of black pox has been treated as above ordered, in page 151, the appearance of the eruption indicates mostly, a propriety in letting blood from the arm. *Gruel diet* is all that can be permitted, and the antimonial wine may be given in such a quantity as will stay on the stomach. The best application for the first batch of pustules, is warm water, applied in lint, and covered with oiled silk; then the flowers of zinc, dredged on the pustule; if conical crusts form, poultice and dress the parts with lint, dipped in a solution of lunar caustic and covered with oiled silk.

Lunar caustic must be used freely to the throat sores, and, after the first application, used *lightly*

every morning, especially, to the parts which look the most unhealthy. Half a grain of acetate of morphia may be given at night.

Until the sores are healing, the eruption faded and the patient nearly recovered, mercury is dangerous and increases the disease; but, afterwards, five grains of blue pill may be given at night, with a quarter of a grain of acetate of morphia, for ten or twelve days.

Observations.—(*a*) Many eminent men recommend that the yard should, in every case of venereal disease, be raised to the belly, and not allowed to hang unsupported till a cure has been effected; this applies also in cases of secondary sores.

(*b*) When a man has been recovered from a severe case of pox, or clap, he should be impressed with the importance of using every prudent means to establish his wonted health, and restore a tone to his constitution which is always severely tried by a venereal attack.

Sec. 45.—Eruptions from Food, or Climate.

(1) Soldiers, sailors, scullermen and others, who are exposed to great changes of weather, fasting, precarious, or doubtful food, are subject to a black leprosy, displaying itself in dark livid patches about the thighs, legs and arms; they are covered by thin, scaly crusts, which, falling off, leave an abrasion of the skin behind, which discharges a thin watery substance not unfrequently mixed with blood.

Treatment.—Thirty drops of diluted sulphuric acid, in water; or fifty of vinegar, in water, three

times a day, with a little improvement of diet and dry clothes will often speedily effect a cure.

(2) NETTLE-RASH, or an eruption on the skin, similar to that produced by being stung with nettles, will sometimes make its appearance and become exceedingly troublesome.

Some irregularity of diet will cause nettle-rash, and rectifying this will suffice to cure the disorder: but, sometimes, it will last for months and one may search in vain for the cause in hope of prevention, or relief. The bowels must be freely relieved with black draughts and, afterwards, thirty drops of diluted sulphuric acid given in water, three times a day.

(3) PURPLE BLOTCHES, which arise after much debility on recovering from serious accidents, or after privation, appear very like bruises, but give no pain, and do not feel stiff, or uneasy. It is of importance to distinguish them from venereal affections; they are generally found about the thighs and legs, and indicate a poorness of constitution.

The best treatment is one grain of quinine in thirty drops of diluted sulphuric acid, taken, in a glass of water, three times a day.

Animal food and a glass of port wine would do good.

Eruptions of the skin are sometimes feigned. Men rub in acrid matter, but this eruption will often appear in but one spot; the rest of the body being quite free: where this thing is suspected, the tongue clean, the pulse natural, the man evidently in health, where the skin is not elevated, and the temperature not greatly increased, let a blister be put on and watch the man.

Low diet, an emetic of two grains of tartarized antimony in twenty of ipecacuanha, will do no harm and will often assist as a remedy.

Sec. 46.—Venereal Warts.

After clap, or gleet, warts arise about the foreskin, nut, outer skin, or lower extremity of the bowels: let them be well touched with lunar caustic every morning, till they disappear.

Sec. 47.—Buboes, or Swelling of the Glands in the Groin.

It must be remembered that these are, very often, in no wise connected with venereal disease: a bad corn, or nail; a wound in the foot, or leg; ill health; many accidents may inflame and cause to swell the glands in the groin: but still, most frequently, venereal sores, or a bad clap will be found the origin of the complaint.

It is of much importance to ascertain the state of the patient's health; if the lips be pale, the pulse low, the man emaciated and weak, the best thing is port wine, or porter, and good animal food.

If a corn or sore be about the foot, or leg, look to remove the cause and the effects will cease. If, however, the gland be swollen, and painful, and the man in strong health, command rest; a dozen leeches to the part, a good opening draught or two, and *low diet*: give a dose or two of five grains of blue pill and ten of colocynth, at night, and if, after this, the

gland does not rapidly subside, poultice; bring to a head and open the 'bubo:' again poultice, and give *generous* diet.

Many cases of constitutional bubo precede severe and dangerous affections of the lungs.

Sec. 48.—Inflammation of the Testicles.

This is common when a clap has been suddenly arrested either by wet feet, internal, or local applications especially irritating injections.

The testicle is painful and begins to swell; it feels to the hand soft and pulpy; the swelling and pain rapidly increase; the lower end of the testicle and the chord of the testicle become hard and the pain extends to the loins.

Treatment.—The most active means can alone be relied on as a safe method of meeting the acute stage of this disease. Apply from eighteen to twenty-four leeches both to the testicle and the swollen chord; give two grains of calomel and five of powdered scammony at night and a black draught in the morning. Enjoin perfect confinement to bed and, in eight or ten hours, give ten drops of antimonial wine and repeat the dose every three hours. Warm fomentations, consisting of flannels dipped in hot water and placed over the leech bites, should be continued till the leeches cease to bleed: afterwards keep on a warm, moist flannel.

Diet.—Tea and gruel.

By these means you may hope to bring back the 'running from the yard,' when the swelling of the

testicle will rapidly subside. At this stage strong mercurial ointment, spread on lint, large enough to cover the entire bag, or scrotum, may be applied and retained on with a suspensory bandage.

DIET.—A little animal food, but no stimulants.

OBSERVATIONS.—(*a*) Unless the swelling decreases greatly, renew the application of leeches and the medicines above prescribed.

(*b*) A man who has once suffered from inflamed testicle is very liable to a recurrence of the complaint; wherefore he must be additionally careful of contracting venereal disease, and of walking, or riding without a suspensary bandoge.

SEC. 49.—INFLAMMATION OF THE BLADDER.

This, like the former, often supervenes upon a severe attack of clap: other causes, not venereal, may give rise to inflammation of the bladder: it is generally preceded by a pain and heat in the lower parts of the belly; an inability to retain any but a small, a very small quantity of urine, which is forced out with violence and very frequently; the urine is turbid, thick, and feels hot in the passage: as the inflammation increases these symptoms are more marked and violent; the urine may now be voided bloody, or a milky white; the crotch and yard are the seat of pain and spasms; floating threads of thick matter will often be detected on the surface of the urine and the man will be constantly in the act of passing a few teaspoonsful of urine.

The TREATMENT consists in removing blood, plen-

tifully, from the part, by leeches; if the patient be robust, from sixteen to twenty ounces of blood may be taken from a vein in the arm: afterwards put on the leeches and use a warm bath: from fifteen to thirty drops of antimonial wine and thirty of tincture of henbane should be given, in water, every three hours and five grains of calomel, ten of camphor and half a grain of acetate of morphia at bed time. The bowels may be relieved by castor oil.

DIET.—Tea and gruel.

It has been often observed that thirty drops of balsam of copaiba will relieve the bladder of the severe inflammatory attack, in a manner as wonderfully as inexplicably.

OBSERVATIONS.—(*a*) It is probable that numerous bleedings and leechings may be required, and a course of extract of buchu and uva ursi, in equal parts, made into a mixture, may be commenced, a dose as strong as the stomach will bear being taken three times a day.

DIET moderate, mixed; no stimulants.

(*b*) Inflammation of the bladder may arise between the ages of forty and sixty without any ostensible cause, or a very slight one, such as some irregularity of *diet*; exposure of the body to cold air, in an evening, when quitting a warm room to make water; and this is the most difficult to cure.

TREATMENT.—Leeches should be applied and fomentations. Extract of buchu and of uva ursi may be given: rest and low diet enjoined. It is probable that every two, or three days, the leeching must be repeated. Calomel and opium, of each half a grain, may be of use every night and morning.

DIET.—At first, gruel and tea, subsequently, mixed food, but *no stimulants.*

SEC. 50.—STRICTURE OF THE URETHRA, OR NARROWING OF THE PASSAGE THROUGH WHICH THE URINE PASSES.

By far the most general cause of stricture is a badly-managed clap. The inflammation occasioned by the action of the venereal poison on the delicate lining membrane of the passage, instead of subsiding gradually and healthily, is allowed to continue, attracting little attention; a gleet is left, and the patient, imagining that nature unassisted will perfect the cure, pursues his wonted style of living: he passes his water in a smaller, or in a corkscrewed, or scattered stream, and yet pays little regard till his health begins to be impaired; the organ wastes and a strongly established stricture obstructs, or more, or less completely impedes the flow of urine.

STRICTURES are of various kinds. A slight elevation on one side of the urine-passage (urethra); a ring of new matter deposited so as to elevate the lining membrane in a circular form; a strong, firm membraneous band, or various spiral-shaped bands may be found arresting the free flow of urine.

Other strictures are broad and long swellings in, or under the lining passage of the urethra (urine-passage), and these are of various sizes and consistencies, varying from one to three inches in length: some are elastic; some spongy; sometimes three, or four

strictures, exist in the canal; sometimes the tip of the yard; sometimes the extremity nearest the bladder is the seat of swelling, or stricture: sometimes a patient, who has been told he has a bad stricture, and whose passage resisted even a moderate-sized bougie, will be found to admit easily a full-sized catheter without inconvenience. Sometimes a stricture is found so tight that a probe, the size of a crow-quill, cannot be passed through the opening, through which the water dribbles, almost drop by drop.

Strictures are commonly of very gradual growth and it is surprising how many people labour under stricture, without detecting their existence. They are treated for all sorts of diseases and the stricture, which has caused the complaint, is never dreamed of: pains in the hips and loins; bad piles; swollen testicles; gleet; indigestion; irritable breakings out about the nose accompany, and often lead us to suspect stricture of the passage: many strictured men have occasion to go to stool when they pass their urine, and constant straining is liable to produce rupture.

After a stricture has been of long standing the bladder contracts and becomes so irritable that it will retain only a small portion of urine; thus, every half hour, some men are compelled to void urine, which is thick, slimy and loaded with yellowish-white matter.

When any excess, or accident has inflamed the parts, often the urine is so retained that no relief can be obtained; a little thick, viscid matter lodges about the passage, perhaps, and not a drop of water

can be voided to relieve the patient: this is a most distressing accident. The seminal fluid is often ejected unconsciously in those who suffer from stricture; the face looks pallid and sallow; the expression is mournful; the temper more fretful; the legs waste, and hair will sometimes turn prematurely grey, scalding in passing the urine will recur at intervals, during the existence of irritable stricture; and the state of the stricture may often be indicated by the state of the digestive powers.

The treatment of strictures of the urethra, or passage through which the urine passes is important, interesting and peculiarly difficult.

TREATMENT.—The method to be employed, in order to cure a stricture, is the introduction of some hard, unyielding substance through the strictured passage. Remember a stricture cannot be cured by dilitation; the bladder may be relieved of its urine in retention, by an instrument which will dilate the stricture, but, if you would cure a stricture, you must employ some means to absorb the matter already deposited and prevent the vessels resuming their old habit of depositing matter again in the old spot.

It is not the mechanical action of dilitation, but the vital action of absorption (removal) of the stricturing matter, which must be induced in the part, or the cure cannot be effected. Could you cut down to the stricture and scrape off all the false membrane and remove every prominent part in the strictured passage, you would not cure the stricture unless you could adopt such after treatment as would prevent the in-

clination of the diseased vessels to deposit matter and form strictures.

Bearing this in mind, you will at once reject a world of visionary schemes for cutting through, or burning out these strictures, and you will bend all your efforts to induce a new action in the vessels which formed and still keep up the stricture, and you will regard dilitation only as a means to this great end.

Where it is practicable to introduce a silver catheter, you will find the pressure upon the stricture, and the consequent stimulus to the vessels of the part, acts most successfully, and with the least pain and injury to the patient.

The great objection to elastic bougies is that the heat, moisture and pressure from the strictured part make the elastic tube to yield, and thereby pressure is taken off the part which most requires it and unequally exercised upon those portions of the passage which can be injured only by this addition. The removal of a bougie causes more pain and, therefore, does more injury to the passage than a silver catheter; generally speaking, a softish bougie does far more mischief to the urethra (urine-passage) than good to the strictured part.

In the hands of a patient, persevering, judicious operator, a silver catheter is quite as easily introduced as an elastic bougie and *it alone* insures a rapid improvement, and, in the majority of cases, a safe and perfect cure.

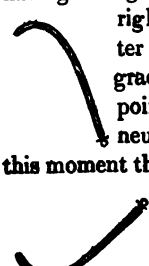
All flourish, and bombast, and off-hand trickery in passing instruments through strictures is pitiful,

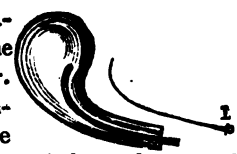
brainless and contemptible vanity in the operator. Let the patient meet a bear robbed of her whelps, or a fool in his folly, rather than that man; for a bauble, a painted feather, would such an one sacrifice the *life of a human being*.

A whole set of catheters ought to be at hand, each catheter marked with its own number, as, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14. No. 1, being less in calibre than a crow's quill, and Nos. 13 and 14 being Sir Benjamin Brodie's full-sized 'prostatic catheters.'

When a catheter is to be introduced for the cure of stricture, the bladder should not be empty of urine, generally, but it will be as well, for the first time, in order to judge of the nature of the stricture to see what kind of stream the urine is voided in; by this, the size of the catheter, which may be attempted to be passed, may be judged.

The position of the patient may be either on his back, or standing with his shoulders leaning against the wall. Take the yard with the left hand, and, having well greased the catheter, introduce it with the right, the *concavity*, or curve of the catheter looking to the ground; gently and gradually let it steal on its way, till the point has passed the 'crotch,' or 'perineum' and approaches near the bowel, at this moment the handle of the catheter is to be turned (describing a semicircle) and still gently pressed forward, the catheter will now be in this direction; gently lower the handle of the catheter and





the yard together and with patience and perseverance, the catheter will enter the bladder. When the catheter has entered the bladder, remove the stilett, or wire marked (1) out of the catheter and suffer a little urine to escape, thereby you will be assured that the bladder has been entered.

Much difficulty must be expected to occur in the attempt to pass the stricture, but wait patiently and press forward gently, let the point of the catheter be directed along the upper edge of the passage after the catheter has been turned. No violence, no flourish, but patience, gentleness and perseverance.

If the stricture is a very bad one and No. 1, or 2 introduced with much difficulty, the patient must be strictly confined to bed and let the catheter be left in all day and night. This may be done by passing tape round the thighs and buttocks, and fastening to it the top of the catheter.

If much irritation be experienced in the bladder, or passage, put on a score or two of leeches and give fifteen drops of antimonial wine every three, or four hours.

DIET.—Linseed-tea, gruel and barley water.

OBSERVATIONS.—(*a*) If it be possible, keep in the same catheter for two, or three days, and you will find, at the expiration of that time, no difficulty in introducing a catheter four or five sizes larger, which must also be retained for a day, or two and you will easily and permanently cure the patient. In a month, or six weeks, you will be able to pass a

full-sized catheter (*i. e.*) one as large as the orifice, or opening of the urethra. or urine-passage will admit.

(*b*) For the majority of cases it will be found sufficient to introduce a catheter whilst the man is standing and keep it there as long as he can bear it. In three days introduce the same: subsequently, every alternate day try a larger, retaining always the instrument in the bladder as long as the patient can bear it.

DIET.—At first, gruel; then animal food may be allowed; throughout no spirits or wine may be granted.

(*c*) Hundreds of cases are thus cured, and hundreds of cases for want of judicious treatment are rendered hopeless and fatal.

(*d*) Stricture is apt to recur, after a severe attack, in a milder form, when the digestive organs are out of order, but both it and they may be relieved, speedily, by a careful introduction of the catheter two or three times.

(*e*) More or less bleeding always accompanies the early introduction of catheters, as also faintness and some uneasiness; but after a time the passage receives the instrument without inconvenience or pain, and little or no offence, or trouble is occasioned to either operator or patient.

SEC. 51.—RETENTION OF URINE

May occur from stricture,
From paralysis,
From lodgment of stone in the passage,

From injuries to the passage,
From inflammation of the passage, or
From spasm in the passage.

First, When retention of urine occurs from *stricture* of the passage, it will be known from previous symptoms: it will have been threatening for months; perhaps years.

Often the urine will have nearly stopped and always the stream will be very small, scattered, or screwed.

The first thing to be done is to pass a good, smooth silver catheter, which may be done by perseverance and patience; having entered the bladder, remove the stilett, or wire, as directed in the former Section, page 168 and treat the case as there prescribed.

But, if by no art the patient's stricture can be passed, he must not be left to perish by the bursting of the bladder and, preferably, introduce a trocar up the fundament into the bladder and suffer the urine to escape that way: But this is a bad matter and very, very rarely is required; almost always a catheter may be introduced by perseverance and patience.

Second.—Retention of Urine from Paralysis

May occur from severe injuries to the spine and loss of power in the lower extremities, retaining of the urine during a long journey, disease of the bladder, fever, old age, or, indeed from various causes.

TREATMENT.—There will be no difficulty in introducing a full-sized catheter, every six hours, with which the water must be drawn off. Where the affec-

tion is merely temporary the bladder will soon react of its own accord, when it will be unnecessary to continue the use of the catheter.

Third.—Retention from the lodgment of Stone in the Urine Passage.

This often occurs in the act of making a fair, full-sized stream of water; the stone can be felt by the patient; he knows that a foreign body closes the aperture. If the stone be so small that it has lodged in the passage no alteration of his position will enable him to void what urine is left in his bladder. In which case

The TREATMENT is to put him into a hot bath and give ten drops of oil of turpentine in hot linseed tea, every half hour. If it will not pass and you can feel it distinctly, put your fingers before and behind it: cut down upon it and remove it with a pair of forceps: but if you cannot feel it, place the patient on his back and, rather than suffer the bladder to burst, introduce a catheter and drive the stone back again into the bladder.

DIET.—Mixed, animal and farinaceous; no spirits, wines, nor acids.

Fourth.—Retention from laceration, and bruising of the Passage from some accident.

If blood has been discharged into the bladder and it has there clotted, it will constantly obstruct the passage and cause retention of urine.

TREATMENT.—Foment with warm water and give

linseed tea: afterwards, dash suddenly, over the bare legs, cold water, blood clots and urine will pass; if but little relief be experienced, introduce, carefully, a moderate-sized catheter and the bladder may be thus perfectly relieved.

Two, or three days will suffice to empty the bladder of all the bloody clots and you may then expect to find clear urine.

Give a teaspoonful of sweet spirit of nitre in a cup full of linseed tea, every four, or five hours.

DIET.—Chiefly tea, bread and light pudding, to which a little animal food may be added in the middle of the day.

If the passage be severed by a cut, pass into the bladder a moderate-sized catheter and keep it there till the scar be perfectly formed and consolidated, otherwise an *incurable* stricture will be the result.

If the passage be bruised it is better to attempt to overcome the retention by leeching, and twenty drops of antimonial wine; and putting warm fomentations over the belly and crotch, than by the use of the catheter.

DIET.—Gruel and tea.

Fifth.—Retention from Inflammation of the Passage.

Violent inflammation attacks the urethra (urine-passage) from clap suddenly arrested by injections, or imprudent diet, or conduct.

TREATMENT.—Apply thirty or forty leeches to the crotch and lower part of the belly: open a vein in the arm and bleed to fainting; then foment with

warm water and in a few hours the retention will be relieved.

DIET.—Barley-water and tea.

Sixth.—Retention from Spasm

Is a very common affection; pain and cramp in the crotch and fundament indicate the nature of the disease.

TREATMENT.—Give a drachm of antimonial wine in a glass of warm water, put the patient into a warm bath and retention will be relieved without the use of the catheter.

OBSERVATION.—Spasm in the crotch often accompanies bad stricture.

SEC. 52.—INCONTINENCE OF URINE, OR INCAPACITY TO CONTAIN THE WATER.

This disease is the reverse of the former and consists in a want of power to retain urine in the bladder.

In young children there is often this incapacity of retaining the urine during sleep especially. The REMEDY is to put a blister on the crotch and attend patiently two, or three times in the night to the passing of the water.

In aged people an elastic bladder suspended from the waist, into which the yard is to be introduced, is all that can be done.

In fever this symptom is unfavourable.

Incontinence, often, is produced by not emptying the bladder in time, whereby it becomes greatly dis-

tended and weakened. Various irritating substances in the bowels have been known to occasion incontinence of urine.

TREATMENT.—Blister the crotch, or perineum; attend to a periodical emptying of the bladder; open the bowels with castor oil and insist on simple DIET, with a moderate quantity of wine, or porter.

SEC. 53.—INJURIES TO THE LOWER PART OF THE FACE AND TO THE THROAT.

When upper, or lower lip has been slit up and completely divided, an easy and perfect cure may be effected by passing, through the edges of the severed lip, a needle, threaded with Ipswich twine; draw the edges close together and tie the twine so that the knot will not slip. Two of such stitches will suffice to approximate the severed edges. A few slips of adhesive plaster may be neatly applied to assist the stitches in keeping the wounded parts in apposition. In a few days the cure ought to be almost perfected and the scar hardly perceptible.

There is *another method of cure* as easy and effectual as the former; it consists in passing a needle through the edges of the wound, leaving it in, and passing a piece of twine under the head and then under the point of the needle in the figure ∞ and drawing the thread tighter and tighter till the edges of the cut lip are in close contact. One or two such bindings would suffice to close a lip slit from chin to tip, or from nose to mouth. The needles are to be

left in till they ulcerate and come away of their own accord, which will be in four or five days.

DIET.—In all attempts to close wounds about the mouth and lower part of the face the food should consist of fluids and jellies, to avoid the necessity of mastication and the action of the jaw and lips.

Secondly, When a piece of the lips has been cut, or knocked out, put together the edges with your fingers, but if much puckering at the base of the wound be caused, do not unite the wound till you have extended the wound, cutting out a little farther in the shape of a V, then approximate the edges according to one of the methods recommended above. If the upper lip has been the injured one, the piece to be cut out is to be in the reverse shape to the former, thus Λ.

SEC. 54. — DISEASES OF AND INJURIES TO THE THROAT, PALATE AND NECK.

First, Simple inflammation of the throat and palate, or common sore throat and its consequences.

Second, Inflammation from secondary venereal disease.

Third, Malignant diseases of the throat and palate.

Fourth, Wounds of the throat.

First.—Common sore throat is known by redness and swelling in the back of the jaws, palate, tonsils and pin of the throat, or uvula. There is always derangement of the stomach and some feverishness. Mostly, headache, pain in the throat, difficulty of swallowing, irritating cough, and thickness of voice.

TREATMENT.—In bad cases give an ounce of antimonial wine in warm water, rub a little hartshorn and oil on the throat, put on a piece of new flannel and send the patient to bed. As soon as the vomiting has ceased the patient will fall off into a gentle sleep, when he awakens, give four grains of calomel and ten of jalap; and in a few hours a cure will be effected.

Sometimes inflammation of the throat and palate extends to the windpipe and the symptoms are very severe: the breathing is noisy and difficult, and there is much anxiety in the countenance. On pressing the finger on the wind-pipe, pain is experienced, and there is considerable swelling beneath the ear and lower jaw: the voice is inaudible; the roof of the mouth, or palate, tonsils, uvula and back of the throat are intensely red, and much swollen; the opening to the throat is nearly blocked up, resembling two narrow fissures more than its natural capacious gape. If swelling and inflammation continue, the inspiration becomes alarmingly impeded: the breath passes with a hissing sound and the temples beat violently: the cough threatens suffocation, and there is a convulsion in the attempt to get rid of the expectoration.

There is sometimes an epidemic disorder of this nature which is rapidly fatal: on introducing the finger to the back of the roof of the mouth and root of the tongue, the parts feel soft, pulpy, puffy and filled with fluid. In a camp, hospital, or ship, this disease is greatly to be feared.

TREATMENT.—Where suffocation appears inevitable the wind-pipe should be opened in the front of the throat below the prominent bone in the throat,

and a tube should be introduced through which breathing may be effected till the violence of the attack has abated; a fine piece of gauze may be tied over the opening of the tube which will modify, in a measure, the air and take off some of the irritation.

Some have been saved by the operation, though many have still fallen a sacrifice to the disease.

The *treatment* in inflammation of the throat, extending to the wind-pipe, should always be active. A vein in the arm should be opened from which from two to three pounds of blood may be taken; a blister should be applied to the back of the neck and twenty drops of antimonial wine given every three hours in a teaspoonful of water: at night, five grains of calomel must be sucked down in jelly, or thick gruel.

If, in eight or ten hours, considerable improvement be not observed, leeches by handfuls should be put on the throat, and a drop of croton oil put into a teaspoonful of honey should be given in two doses, the second at the interval of two hours from the first.

If matter forms in the tonsils it should be relieved by introducing a clean, sharp lancet.

DIET.—Tea, barley-water, and thin gruel.

N. B.—Throughout the bowels must be kept well open.

(*b*) It sometimes affords great relief in sore throat to breathe over a jug of hot water, for twenty minutes.

(*c*) Sometimes the uvula, or pin of the throat is much enlarged and permanently elongated after severe sore throat. Let it be snipped off with a pair of scissors.

(*d*) Sometimes the tonsils become permanently enlarged: these may be tied, or cut off.

MUMPS.—Sometimes the glands under the ear and jaw swell prodigiously; they are to be treated as common sore throat, see page 176.

Second.—Inflammation of the Throat from Secondary Venereal Disease.

The first symptom which draws attention to this disease in the throat and palate is one, or more ulcers, or open sores resulting from an imperfectly treated venereal attack: these ulcers in the throat are generally manageable enough unless the patient has been poisoned by too much mercury, when, indeed, the ulcers become extensive, deep and numerous: much destruction of the soft parts at the back of the throat and palate succeeds, and a thick, yellowish matter is expectorated; there is much pain and soreness about the parts; if the ulceration extends, the voice is inaudible and portions of bone and small ligaments are discharged with fetid and filthy matter from the mouth and throat; sometimes the spine of the neck is bared; sometimes the partition between the windpipe and gullet is eaten through; great emaciation succeeds, hectic fever comes on and the patient sinks.

It is not uncommon, when much mercury has been given in venereal disease, to find the back of the throat, the tonsils, uvula, palate and the surrounding soft parts one mass of deep-corroding ulcer, emitting a discharge almost intolerable.

It is of great importance in all cases of secondary

symptoms, to ascertain whether they are complicated with the mercurial disease, or whether the original pox had been throughout treated without mercury.

When secondary venereal disease is not mixed with the mercurial, there is no fear of its ever reaching any alarming height without the grossest neglect.

TREATMENT.—(*a*) In this case touch the sores with the nitrate of silver, lightly; and give five grains of henbane and five of blue pill every night and morning. During the day give, every four hours, twenty drops of a solution made of an ounce of hydriodate of potass in an ounce of water.

Rarely will it require beyond a few days to cure the disease entirely: the ulcers rapidly improve and skin over.

DIET.—For the first day gruel, afterwards a little animal food; but no spirits, wine, or beer, till the sores are healed.

TREATMENT.—(*b*) But when secondary symptoms occur after the profuse exhibition of mercury, touch lightly, every other morning, the ulcers with lunar caustic: and use the solution of hydriodate as above prescribed: all the mercurial preparations are injurious; it is true that, at first, mercury has been known to improve symptoms, but, ultimately the case is retarded and the health utterly destroyed: most frequently the exhibition of mercury is followed by an immediate deterioration; the ulcers burrow deeply and extend rapidly; and all symptoms are aggravated.

Sarsaparilla has often proved useful, a pint of decoction being taken in a day.

OBSERVATIONS.—(*a*) Where the ulcers are many and deep, it will be better to dip a piece of lint, attached to a probe of wood, or silver, into the solution of lunar caustic (two grains to an ounce of water) and wash the ulcers with it every morning.

(*b*) These diseases are the more distressing, because they have been rendered so intractable by the injudicious treatment adopted for the cure of the primary, or original pox, which under more careful hands would never have been followed by one of the most disgusting scourges to which a man can be subjected.

DIET.—Generous; meat and porter, and eggs and fresh food.

Third.—Malignant disease of the Throat and Palate.

Cancer, and malignant polypus which are hard, painful tumours, streaked, polished and conveying a sensation of a sharp, shooting pain, as of a knife passing rapidly through the tumour, are not unfrequently detected in the throat.

TREATMENT.—Leave them alone; you may give a grain of opium occasionally to sooth pain.

Fourth.—Wounds of the Throat and Neck.

When wounds of considerable depth are inflicted below the angle of the lower jaw; or on the sides of the lower part of the throat and neck, the many large blood-vessels and nerves lying in the immediate neighbourhood, mostly, are severed and almost instant death follows.

It is, however, always prudent to attempt to seize the ends of the large vessels spouting forth JETS of red blood, and, for this end, a pair of common forceps will answer all purposes; thrust the finger into the wound over the mouth of the vessel, then take it up with the forceps, pull it out a little, and pass a thread round it, tie it: cut off one end of the thread and leave the other long, to remain outside the wound, which is to be treated as a simple incised wound (page 48).

Sometimes, after the infliction of a rent and lacerated wound on one side of the neck, little blood occurs at the moment, but after a lapse of an hour or so, profuse bleeding comes on and the patient sinks.

Wheresoever a wound sends forth, in JETS, streams of blood, the fingers should be thrust in to find their mouths and stop the flow.

If the wound be a punctured one (inflicted by a sharp-pointed weapon) perhaps the mere introduction of the finger, or pressure from without will arrest the bleeding effectually, especially, if the wound be so narrow and deep that the forceps cannot lay hold of the cut blood-vessel. Firm dossils (lumps, or folds) of lint may sometimes be pressed down to the bottom of the wound and, being closely packed, will arrest the bleeding; these may be left for three or four days when they may be removed, the wound pressed to, gently, and allowed to heal gradually.

In other cases dossils (lumps, or folds) of lint may be firmly bound over the mouth of the wound, especially if shallow, or when inflicted on a part where

the blood cannot flow internally, and this may be left secured by a bandage for four, or five days.

The most common cases of wounds of the throat and neck are those inflicted by the murderer, or the suicide: these injuries vary in extent from the mere wounding of the skin to the complete division of all the soft parts of the neck, air-tube, muscles, gullet, veins, nerves, arteries and even the immediate covering of the spine of the neck.

TREATMENT.—When the wound of the neck, or throat has been inflicted with the intent to self-destruction, the patient must be confined by a straight waistcoat and placed in a horizontal posture.

(*a*) If merely the skin and integuments have been wounded, put in a few stitches, bind the head in a position favourable for the approximation of the lips of the wound and apply a strip or two of adhesive plaster.

Keep the bowels open with blue pill and a black draught, and forbid all stimulant fluids.

(*b*) Where the windpipe has been opened by the cut, and part of the muscles of the neck divided, you may expect a very frightful sight, difficult breathing, and repeated, violent discharge of blood mixed with froth through the wound: the branches of the main arteries of the neck will bleed very freely when severed, and the expression of the patient's face will be distressful and full of alarm.

The vessel which sends forth its *red* blood in JETS must be taken hold of by a pair of forceps, pulled out a little and tied, by passing round it Ipswich twine, or strong silk and fastening it in a knot; cut short

one of the ends and leave the other long, to remain outside the wound. These severe cuts must not be brought together by stitches, or plaster for twelve, or sixteen hours, when the effect of an attempt to close the wound must be watched; it will be proper to leave open the wound over the windpipe lest suffocation should ensue, let it heal as it may, the fear is that it will close too quickly and then an artificial opening into the windpipe must be made lower down, into which a tube should be introduced to supply the lungs with air. The necessity for this will be indicated by the increasing and alarming difficulty experienced in respiration.

(*c*) When, in addition to the foregoing injury, the gullet be also opened, tubes must be passed through the mouth, or nostril into the stomach, and, through this, nutriment must be given, till the wound has perfectly closed.

All these cases are unfavourable: most terminate fatally either immediately after the infliction of the injury, or subsequently, from loss of blood, or difficult breathing, or inflammation of the throat and lungs, or from a gradual sinking and decay of the bodily powers.

Sec. 55.—Pains of the Teeth.

If pain arises in a hollow tooth, a few grains of caustic potass will destroy the nerve, but must be put in cautiously. Some prefer aqua-fortis (nitric acid) which is a milder remedy.

If the tooth, however, be perfectly sound, the

treatment should be the same as that directed for Tic doloreux described in page 246.

Sec. 56.—Dislocations.

When the head of a bone is out of its socket it is said to be dislocated; the object of medical assistance is to replace it: this may readily be done by extending the limb; stretching the muscles and thus lifting the head of the bone from the false position, where it has become imbedded and firmly fixed by the action of the flesh (muscles), and restoring it to its proper cavity.

When patients are of a full habit of body and very strong, the stretching the muscles (flesh) fixed into, or running over and about the joint is a difficult task, especially, if the patient be not thrown off his guard, but allowed to fix his attention on the injured part and retain his teeth clenched.

Great benefit will result from the use of antimonial wine, two teaspoonsful of which may be given in warm water, the faintness and sickness caused by its action will prevent the resistance of the patient and throw him off his guard.

The teeth may be kept apart by conversation, or by obliging the patient to open the mouth.

Sec. 57.—Dislocations at the Shoulder-joint.

Of all dislocations this is the commonest; the head of the upper-arm-bone may be misplaced downwards, so as to be *beneath* the socket; the hand tingles and

is fixed apart from the body; the shoulder is flattened, the arm elongated; the accident is easily detected; the hand cannot be raised to the head.

TREATMENT.—Place the patient in a chair, plant the knee against the ribs immediately beneath the arm-pit, take the arm and extend it, pull the arm till the head of the bone has been brought on a line with the socket of the shoulder; then depress the arm, raising your knee for a fulcrum to lift the head of the bone into its place, which will be notified to you by a slight jerk: having assured yourself of the reduction (return of the bone to its socket) confine the arm to the body by a bandage, and the hand in a sling. No use must be made of the hand for ten or twelve days, and then only a cautious exercise of hand and arm may be permitted.

Secondly, The head of the arm-bone may be dislocated forward so as to rest on the front of the socket under the flesh of the breast, this accident is as easily detected as the former, by no means can the hand be raised to the head; the shoulder appears flattened, and there is a distinct swelling in the front of the socket, where, indeed, the head of the bone rests.

TREATMENT.—Place the patient in a chair, raise the arm, plant your knee in the arm-pit, pull the head of the bone, firmly and perseveringly, till it be brought on a line with the edge of the socket, into which it will slip with a jerk.

Confine the arm and hand as in the former case.

Thirdly, The head of the arm-bone may be dislocated and lodged on the back of the blade-bone; you

will see in a moment that the head is not in its socket and its position may be detected by the feel.

TREATMENT.—Extend the arm, bend the fore-arm at right angles with the upper arm, pull away as directed for the former case and the bone will be replaced with very little difficulty. Confine the arm and hand as above prescribed.

(*a*) *Long-standing dislocations of the upper arm* may prove difficult to manage.

If the arm bone has been out of socket for two or three weeks, or if it be found impossible to restore it to its place by the simple directions given above, the patient must be seated on a bench; place a jack-towel round his chest and confine it to a strong staple, or hook fixed on the side of the room opposite (the side which faces the healthy arm); attach two iron rings to the opposite wall higher than the man's head; wet a hand-towel, fold it, put it round the arm above the elbow; then fasten a strong band made of worsted and silk, or any substance which neither cuts the arm nor easily breaks, by a clove hitch; to this attach a rope which runs through two pulleys, one pulley is to be fastened to one ring in the wall, the other pulley is to be fastened to the clove hitch, the rope is then to be passed through the other ring in the wall; an assistant is to pull away firmly and slowly at the rope till the head of the bone has been brought to a level with the edge of the socket, when, with your hands, or your knee you are to raise, or direct the bone aright, give the word, and in a moment the assistant is to let go the rope and the dislocation will be reduced with a jerk.

Treat the case now with care and attention.

AFTER TREATMENT must be directed much by the force which has been required to replace the bone; it is always proper to confine the arm to the body and the hand in a sling, and continue it so in perfect rest eighteen days. A black draught and a blue pill should be given every other day, for a week, during which time nothing but gruel, tea, and a little light bread pudding may be allowed. Should much pain and swelling, much tenderness to the touch be experienced in the shoulder, from twenty to forty leeches should be applied: the hand or arm must be kept at perfect rest for a month and two or three blisters applied one after another. When the month has expired it will be proper to commence using the hand and arm, which should be rubbed and exercised daily, but not to fatigue it much.

OBSERVATIONS.—If the system be full and vigorous and the dislocation has been reduced with much trouble, it is as well, forthwith, to open a vein in the arm and take a pound and a half of blood. *Rest* is the principal thing. A limb once dislocated is very liable to a recurrence of the accident.

SEC. 58.—DISLOCATIONS AT THE ELBOW

The commonest form of this is seen in boys, when, from a fall, both bones are dislocated backwards; it is known by two infallible marks; *First*, the fore arm cannot be bent upon the upper arm. *Second*, the arm is shortened: it looks twisted, and on attempting to bend the fore arm, the ends of the bone may

be felt, behind, far too high, when compared with what it ought to be, or when compared with the other.

TREATMENT.—Cause the patient to sit on a stool, stand behind him, take the arm, extend it, bend it back, as though you were about to bend it the wrong way, continue to extend the arm and you will distinctly feel the two bones restored to their place.

It is well to get some one to stand on the other side of the patient to hold, with both hands, the upper arm above the elbow, by this means you will prevent any injury to the shoulder joint.

After the bone has been replaced, bend the arm, confine it to the side by a bandage, and keep the arm in a sling for ten, or twelve days.

If pulleys are required to replace bones long dislocated, read directions given at the end of the last chapter and adopt the application to reduce a dislocation of the fore arm. Take care not to stretch the shoulder joint.

SEC. 59.—DISLOCATION AT THE WRIST.

It is too easily detected to require description.

TREATMENT.—Pull the palm of the hand and press back the head of the lower end of the fore arm bone.

SEC. 60.—DISLOCATION OF THE FINGERS.

Fasten a silk kerchief round the finger with a clove hitch and pull away till you have replaced the bone; this done, put splinters on the finger and hand, and so confine them by narrow bandages as to retain them in position for eight, or ten days.

Sec. 61.—Dislocation of the Lower Jaw.

The chin is drawn downwards, the mouth widely open and cannot be shut.

Treatment.—Put your thumbs into the mouth, and press down the double teeth firmly, heavily and continuously; as you feel the bones slip down raise the chin and in a moment let your thumbs slip outside the teeth, between them and the cheeks. Beware of this, or your fingers will be nipped by the sudden closing of the jaw.

If one side only of the jaw be dislocated it will be detected easily, and may be replaced by a slight blow on the cheek with the palm of the hand.

Sec. 62.—Dislocations at the Hip-joint.

The head of the thigh bone is generally misplaced upwards and outwards; the limb is a couple of inches shorter than the other and the *toes* turned *inward;* the thigh can be moved but with difficulty, and the hip bone is so much further back and higher up than the other, that it will lead you directly to detect the accident.

Make the man stand erect; the great toe of the dislocated limb will rest on the top of the ball of the toe of the other foot.

Treatment.—Put the man on his back, on a mattress placed on the floor, pass under his crotch a jack-towel and confine it behind his head to a staple in the wall of the room. Put a wetted towel above the knee, apply your woollen band by a clove hitch

(as described in page 186), unless you have a properly padded ring of iron which is generally sold with the 'apparatus for dislocations.' Fasten the pulleys, one to the wall opposite to the fastening of the jack-towel, the other to the woollen band, or iron ring: pass the end of the rope through the other ring (as directed in page 186) and pull away at the rope, gently at first, then firmly and continuously; rotate the limb by pulling the ankle outwards, and by these means you may lift the head of the thigh into the socket, which will be announced by a crack and a jerk, instantly let go the rope and put the patient to bed.

OBSERVATIONS.—(*a*) It is always judicious to nauseate the patient while the pulleys are used, by giving antimonial wine, in water (twelve drops every few minutes).

(*b*) Where the reduction (replacement) is attempted after a dislocation of several days's standing, bleed the patient copiously first, and then give antimonial wine. Sometimes a hot bath is advised.

Dislocation of the head of the thigh bone downward is easily detected, the limb is *longer* by two, or three inches than the other leg, it is also forwarder, and the hip is flattened, a prominence appearing in the position, rather, of the bend of the thigh.

TREATMENT—The patient must be placed on a mattress on the floor; you may then pass a towel round the upper part of the thigh, fix your knee, or foot against the side of his pelvis, order the assistant to carry the knee and leg forcibly and quickly over the knee and thigh of the other side and, while he is

so employed, pull the towel rapidly and jerkingly outward and upward: thus you will lift the head into the socket.

OBSERVATIONS.—It sometimes happens that the head of the bone, in the attempt to replace it, slips behind the socket and is then dislocated upwards and outwards; the description of this accident and the treatment required will be found in page 189.

SEC. 63.—DISLOCATION OF THE KNEE-CAP

Is a rare accident, but occurs, occasionally, in military evolutions, when a horse, rushing past, rubs the cap violently and forces it to the outside of the joint; it may be felt so plainly that no description of the signs of this accident can be required.

The TREATMENT consists in suddenly and forcibly bending the leg, when, with a crack, in an instant, the knee-cap will be replaced.

(*a*) For all cases of dislocation, the after treatment may be gathered from the directions given in page 187. It is well to remember that rest and low diet are the essentials, and that, when inflammation supervenes, plentifully to bleed from the arm, and by leeches to the part, followed by blistering, and afterwards by bandaging, is the only way to save the limb, or retain the use of the joint.

(*b*) After dislocations of the knee-cap it will be, always, requisite for the man to wear an elastic, or leather cap upon the part.

Sec. 64.—Fractures, or Broken Bones.

Bones, which have been broken in two, or more places are termed 'fractures,' and these are said to be of a two-fold nature:

Simple fracture, and compound fracture.

First, Simple fracture is a bone broken into two, or more parts, no wound of the skin and soft parts appearing, through which, either end of the broken bone protrudes.

Second, Compound fracture is a bone broken into two, or more parts, but where one of the ends has transfixed and passed through the flesh and skin.

By fracture, deformity is occasioned; the bone not able longer to keep the flesh (muscles) of the limb stretched, the muscles contract and draw up the broken bones, causing the ends to overlap each other and thereby shortening the limb; motion, according to health, is impaired greatly and the part, for a time, is useless.

The cure of a fracture is effected by putting the two broken ends of the bone in contact; to do this, it is needful to extend the limb, firmly and continuously until it be, at least, as long as the sound limb on the other side: no one ever hears of the broken bone being *too long*, the mischief is, when mended, it is always found *too short*. Too often this is mere carelessness, sometimes, however, it seems impossible to prevent it: there is, most frequently, the other limb for a guide and this ought, therefore, to be kept in view, both in the first and even subsequent part of the cure.

The broken bones having been placed in correct apposition, the limb is to be confined in splints and bandages, and retained till the vessels have thrown out new bony matter and united the fracture: the limb must now be exercised by little and little and a cure will be safely completed.

Sec. 65.—Simple Fracture of the Upper Arm.

The limb is shortened, thickened and bent towards the body, motion is much impaired. On fixing the upper part of the arm and moving the lower part of the shaft of the bone, the grating, produced by the rubbing together of the broken ends of the bone, may be distinctly felt.

Treatment.—Put two pasteboard splints into warm water to soften; cut them to fit the arm, the inner one being destined to be placed under the arm-pit and extend a little below the elbow; the other to be put outside the arm, extending from the top of the shoulder to the same length below. Having softened the pasteboard splints pad them with tow, or wool and cover the padding with a double fold of linen: bend the elbow and raise the arm, extend the broken shaft of bone till it has attained its proper length; put the padded pasteboard splint, prepared for the inside, under the arm-pit; then put on the outside splint, these splints should not meet but should not be more, on either side, than an inch and a half a part: make the assistant hold firmly the splints while you bandage the fore arm, from the hand to the elbow: having then put over the pasteboard splint

on the outside, a wooden splint, continue your bandaging up to the shoulder, enveloping all firmly in your bandage. Put the hand into a sling with the thumb uppermost, and keep the patient quiet.

In a day, or two the bandage will loosen; it may then be taken off and also both the OUTSIDE splints, that you may see that the arm is straight; if it be not, or if it be shortened, it may be again stretched and straightened, and the pasteboard splint, well padded, may be reapplied: then bandage the fore arm from the wrist and continue your bandaging till you have arrived at the shoulder. You may now omit the use of the wooden splint, as the pasteboard one has already become firm and moulded to the shape of the arm. If proper care be taken both in the application of the bandage and in keeping the patient quiet, this latter dressing ought to be firm even at the end of three, or four days, when, again, it will require to be renewed. In this way you will obtain a well-united and a straight limb in five weeks. the arm and hand may then, for the first time, be exercised a little and very carefully, renew the effort daily and the cure will be completed.

SEC. 66.—COMPOUND FRACTURE OF THE UPPER ARM.

There is often much deformity, and, not unfrequently, the shaft of the bone is seen protruding through the skin.

TREATMENT.—Fix the upper part of the arm and extend the shaft of the bone by pulling firmly the elbow: the same directions as those above given are

suitable in this case, with this difference, the wound must be covered with a piece of adhesive plaster and, for the purpose of relieving the matter collected, the bandage must not be rolled above the elbow, but its place supplied by three broad pieces of tape to be tied round the splints to secure them.

The *inner* splint must not be removed when the arm is to be dressed, which it will require to be done, at some periods of the cure, every day. You must not expect a cure under seven, or eight weeks.

The DIET should consist partly of animal food and a little porter.

SEC. 67.—SIMPLE FRACTURE OF THE FORE-ARM.

As there are two bones in the fore-arm, if *one* only be broken, the deformity is not great, nevertheless the injury may be detected by steadying the elbow and then rolling the hand and wrist, first turning the palm up, and then down: the two ends of the bone grating against each other will lead you to detect the accident.

When, however, *both* bones are broken, there is often considerable shortening and deformity with loss of the power of motion.

TREATMENT.—Extend the limb, when shortened in consequence of having both bones broken, in order to bring the two ends of the broken bone in contact: prepare two pasteboard splints, one to be put on the inner, the other, on the outerside of the fore-arm; cut them to prevent their pressing on the upper arm, of the ball of the thumb; put them into warm water to

soften; then pad them with carded tow, or wool, over which fold a double layer of linen; then apply one splint to the inside of the arm from the bend of the elbow to the palm of the hand; afterwards apply the outer pasteboard splint which should reach from the back of the elbow to the tips of the fingers; apply a linen bandage, rolling the fingers and hand and so enveloping the splints and moulding them to the arm, and, having reached the elbow, sew, or pin securely the end of the bandage: put a wooden splint over the bandage, on the outside of the arm, and confine it there, by three pieces of broad tape, for ten or twelve hours when the pasteboard splints will have become dry and firm and will not require the wooden splint to be longer retained.

The caution recommended in the last Section, in re-dressing the arm, must not be lost sight of here.

Sec. 68.—Fractures of the Spine.

Keep the patient on his back. If he has not the power to pass urine it must be drawn off by introducing a catheter two or three times a day.

Sec. 69.—Fracture of the Neck of the Thigh Bone.

Fracture of the neck of the thigh bone may be mistaken for dislocation, but it might easily be distinguished by the facility with which in fracture the limb may be rotated and drawn down to the same length as the sound one, and then, immediately after,

drawn up again. The foot will be found after this attempt to be turned outward: this accident commonly happens to folk far advanced in age.

TREATMENT.—One splint must be put under the arm-pit and should extend to a few inches below the foot: to this, the foot, leg, thigh, hips, body up to the chest, should be confined by bandages: the patient must be strictly kept to bed.

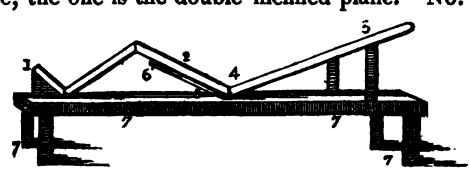
At best the cure will require from eight to ten weeks, very often it cannot be effected, and the man is lame and helpless for the remainder of his life.

SEC. 70.—SIMPLE FRACTURE OF THE SHAFT OF THE THIGH BONE.

This accident occasions much disfigurement, thickening and shortening of the limb: the leg is useless, and if left unsupported would hang, bending the thigh at the point of the fractured bone.

The description of the signs of a broken thigh is not required, the case cannot be mistaken.

TREATMENT.—There are two excellent methods of cure, the one is the double inclined plane. No. 1 is



the foot piece, No. 2, the thigh piece, which can be lengthened, or shortened, by moving the screw marked

No. 6: No. 3 is where the head rests; No. 4 is for the hips; No. 5 is the broad part of the plane which rests on No. 7, a common bed. There is most commonly a part scooped out at the part marked 5, for the convenience of placing a bed-pan there, which may be used without, in any way, disturbing the patient. Over this inclined plane a mattress is to be secured, which is sold with it, as it would be difficult to adapt one accurately.

As soon as this double inclined plane can be gotten ready, place the man upon it and adapt the broken leg to the raised surface; see that the patient settles down properly: then elongate the thigh board by the screw marked No. 6 and make the assistant pull firmly at the knee, until you have brought the thigh to its proper length; often, you may use the other side for your guide. Raise the foot and bandage it, continue bandaging to the knee, then fasten the linen roller. Draw under the thigh a many-tailed bandage formed of smaller strips of linen sewn across a long strip, thus, No. 1 is the long strip, No. 2, 3, etc.,

the short strips, sewn on at the dots; dip this many-tailed bandage into water and draw it, from under the knee by the end marked '3' to the buttocks. Then fold No. 2, over the knee and cross it by No. 4;

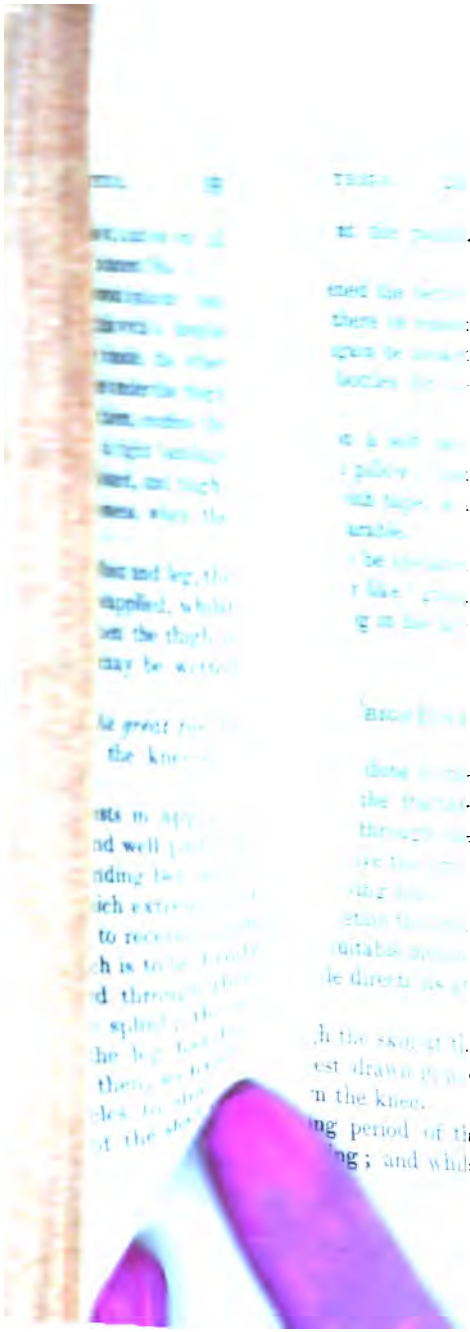
then take the next strip and cross it, and so on till you have arrived at the cross strip nearest No. 3

Take, now, two well hollowed wood splints; pad them with tow or wool and cover this with a double fold of linen; put one splint on the inside, the other on the outside of the thigh; then, pass under the thigh three broad pieces of tape, and, with them, confine the splints closely to the thigh, and put a tight bandage round the leg and thigh, and the leg-board, and thigh-board, to prevent accident, by restlessness, when the patient goes to sleep.

When the bandage loosens on the foot and leg, the foot must be raised and the bandage reapplied, whilst the thigh remains in splints: and, when the thigh is uncovered, the many-tailed bandage may be wetted with a sponge.

Observe well that the BALL *of the great toe* be always on a line with the bone of the knee-cap, (patella).

The second method of cure consists in applying one long splint, notched at the top and well padded, to be placed in the arm-pit and extending below the foot about four, or five inches, at which extremity of the splint two holes are to be made to receive a silk handkerchief, or broad bandage, which is to be firmly applied to the ankle and then passed through these holes and tied on the outside of the splint; the use of this is obvious, viz: that after the leg has been drawn down the proper length and, then, so fixed, it is impossible for the flesh, or muscles to draw the limb up, making the broken parts of the shaft overlap and ride one on the other.



The man must be placed flat upon a mattress; the foot, leg and thigh must then be rolled with a linen bandage, an assistant being employed to raise and steady the knee, during this operation. This long splint, above-mentioned, must be then padded with carded tow, or wool, over which a double fold of linen is to be placed, the upper, notched end is to be, then, placed in the arm-pit, the foot is to be bound round with a silk handkerchief, or broad piece of bandage, the ends of which are to be passed through the holes in the foot end of the splint and tied, as above directed: compare the length of the two legs, and, if the broken one be still the shorter, extend it till it has been brought to its proper length, or at least, half an inch longer than the other; refasten the knot outside the splint. Put a pasteboard splint into warm water to soften, then pad it with carded tow, or wool and cover with a fold, or two of linen, and apply this to the inner side of the thigh: let the leg be now raised and pass a long, eight-yard linen roller round the ankle; continue to roll the leg, including the wooden splint, and, having arrived at the knee, fasten the bandage with a pin; then again bandage, including both splints, finally stopping when arrived to the very top of the thigh. A piece of bandage ought, then, to be passed round the hips and another over the chest to steady the splint. In five weeks the part ought to be united.

The outer splint ought not to be *once* removed till the cure is effected, the inner may be changed every two, or three days: if the bandage be tight anywhere, so as to give much pain after the limb has been put

up,' or dressed, it may be notched at the painful spot.

The less frequently a fracture is opened the better, but, when the bandages loosen, or if there be reason to suspect anything wrong, it should again be looked to. A bed-pan must be used, and bottles for the urine.

The method of putting a patient on a soft bed, bending the thigh and placing it on a pillow; then applying short splints and tying it up with tape, is a very puerile proceeding and highly censurable.

Taking into consideration the evils to be obviated and the powers to be resisted, it is very like 'going about to turn the sun to ice, with fanning in his face with a peacock's feather.'

SEC. 71.—COMPOUND FRACTURE OF THE THIGH BONE.

There is, very often, so much mischief done to the soft parts, by the violence occasioning the fracture which should force a shaft of the bone through the flesh and skin, that it is impossible to save the limb, and amputation is the only means of saving life.

Where, however, it is practicable to retain the limb, the double inclined plane is the most suitable method of cure, about the use of which ample directions are given in the foregoing section.

Should the shaft protrude through the skin at the time you see the case, it may be best drawn in and the thigh extended by drawing down the knee.

These cases will require, for a long period of the treatment, to be dressed every morning; and whilst

much discharge comes away from the wound, animal food and porter, or port wine must be given.

The patient must not hope to get out of bed for eight, or ten weeks under the most favourable circumstances.

Sec. 72.—Fracture of the Bone on the Top of the Knee.

When the knee-cap (patella) is broken it can be discovered by putting the finger between the two portions of bone which, commonly, in fracture, gape wide.

Treatment.—Place the patient on his back, put a straight splint under the leg, reaching from the heel to the buttocks, raise the foot end and keep it so, bandage the leg, including the splint, and in six weeks the cure ought to be completed.

The ends of the broken bone will be united by a ligament, not by bony matter; but this will be equally strong.

Sec. 73.—Simple Fracture of the Foreleg

Is more difficult to detect, when only the small bone of the leg is broken, than any of those before described; nay, often, when the larger bone, or shin bone is broken and the little bone not fractured at the same point there may be a little difficulty in deciding on the precise nature of the accident.

Steady the knee by a firm grasp, take the foot and ankle in the other hand and rotate (turn a little round

and back again) the ankle and you will detect the grating of one end of the broken shaft against the other.

Very often, when both bones are broken, there is shortening and considerable deformity and the accident tells at once, and plainly, its nature.

TREATMENT.—Place the patient on a mattress, bend the thigh towards the body, and the leg towards the thigh, extend the leg and place it on a pillow until proper splints can be looked out for it: keep the leg wet with cold water on cloths and, if there be no wound, add to the water one-third of vinegar.

If you have a double inclined plane, the foot-board of which slips up and down for elongating, or diminishing the leg-piece, put the man upon it; straighten the fore leg and take a many-tailed bandage, composed of twelve, or fourteen slips of linen sewn across one long slip, see page 198; put a pasteboard splint into warm water and, then, select a good wooden splint; having taken the precaution to examine that the mattress is properly on the bed, and the plane properly stuffed, so that no part galls the patient, put the many-tailed bandage into water; then draw it under the leg, so that the first cross slip is close up to the bend of the leg, and the lowest, close to the ankle; compare the two legs; extend the broken one till it is the proper length; get the assistant to steady the foot; keeping the ball of the great toe on a line with the knee-cap-bone; cross the right hand cross-slip over the ankle, then cross the left hand slip, so as to overlap the right hand one; take the second right hand slip, then the second left, and so alternate

the right and left hand slips, till the leg be properly enveloped: fit on a well-padded (with wool and tow, covered with a double fold of linen) wooden splint to the outside of the leg; see that the ankle is fitted into the hole at the lower end of the splint: then fit on the pasteboard splint to the inner side of the leg, padded as above directed. If the double inclined plane be not too broad to suffer the close application of a bandage to the whole of the leg, roll a long linen bandage from the foot to the knee *including* the plane, and stuffing with tow the outside of the splint above the ankle; this, if properly done, will keep the leg straight, perfectly steady and easy, and will not require altering till the bandage loosens; the leg having become smaller and the swelling utterly subsided. But, it may be, the double inclined plane will not admit this, because it is too broad, and if you were to bandage the leg and splints to the plane, there would be room for the leg to move, and the pasteboard splints to be pressed down and away from the leg; in this case, after both splints have been applied; having rolled the foot, get two assistants to raise the leg, one holding steady and slightly bending back the knee; the other helping you to hold the ankle; continue to roll the whole leg steadily and smoothly: then, gently, depress it, fix the foot and, by slips of bandage, so secure the leg and thigh, that it cannot be moved in the man's sleep.

Two other plans may be here described: roll the leg from the foot and take a long splint, having two holes at each end: one end should extend to the ribs, the other, to two, or three inches below the foot;

pad the splint with fine carded tow and a fold of linen, see page 200; put a padded handkerchief under the crotch and fasten it to the upper end of the splint, by passing it through the two holes and tying it outside; then extend the foot and fasten it to the other end of the splint; see that the leg be of the right length; perhaps a view of the other will help your judgment; moisten a pasteboard splint and put it on the inside of the leg; raise the ankle and roll both the splints, by a linen bandage, close to the leg.

The third plan is to bend the thigh on the body and the knee to nearly a right angle with the thigh; put on a wet many-tailed bandage; stuff and pad well two wooden splints so that they fit accurately; pass three tapes round to steady the splints; put the leg on a pillow and confine the patient to bed for five, or six weeks. This plan is not equal to either of the former; the leg is apt to be shorter.

Sec. 74.—In Compound Fracture of the Fore Leg

That plan must be adopted which enables you to look at the leg most easily and yet keeps the leg steadiest.

When a bone is not found united after six weeks, rub the skin with iodine; feed the patient well and put on the splints again more firmly. Look at it in a month.

Sec. 75.—Fracture of the Ribs

When suspected, ascertain the situation of pain,

put the hand on and make the man breathe hard, the grating will often be felt; or follow the rib with your finger and you will easily discover the nature of the accident.

Treatment.—Fix on a broad belt; or roll a broad bandage firmly round the chest to prevent the end of the rib from moving outward; in a few weeks the rib, or ribs will be perfectly united. If the lungs have been wounded air will be felt crepitating under the skin; in this case look well to symptoms, indicating inflammation of lungs, and treat the patient carefully, see page 237: restrict the diet; keep open the bowels and confine the man for a few days to see how the matter promises to do.

Sec. 76.—Sprain.

All the joints are liable to be so twisted as to stretch unduly, or even break the ligaments, tendons, caps and fibres, about them; violent pain is experienced and this is, not unfrequently, followed by sickness and faintness. The joint, after a severe sprain, swells and becomes discoloured. Falsehoods are told by ignorant old women about the bones being out of joint, which, by snapping and pulling, they pretend to rectify, and, after sundry manipulations, they swear, that by rest and lotions all will be right, which, otherwise, would have issued in the death, or uselessness of the part.

Rest is the principle thing for a sprained joint. Warm fomentations, consisting of water, in which poppy-heads have been boiled (if these can be ob-

tained) and applied to the part, by flannel bags containing camomile flowers which have been immersed into the heated fluid, may be used for an hour.

After several days, when the swelling has subsided and the joint feels cold, stiff, but not painful, great relief will be afforded by rubbing the joint with hartshorn and oil three, or four times in the day, and using it gently, but increasingly, day by day.

It will often be found necessary, in consequence of the long-standing swelling, or weakness in the part, that it should be bandaged for months, a remedy very soothing and efficacious. After a time, when inflammatory symptoms have disappeared, no cure can be effected without proper exercise and attention to the general health.

Sec. 77.—Bruise.

Rest and fomentation as above prescribed will remedy bruises in general; but when the bruises are very many, much constitutional excitement and fever may ensue; the best plan in these cases, will be to open a vein in the arm and keep the patient on *fever diet* till these symptoms subside.

When much excitement occurs after flogging, (would it could be done away with) foment the back as above directed and give half a grain of the acetate of morphia in camphor water; if delirium comes on open a vein in the arm; great relief may be afforded if the marks in the back look angry, or are open sores, by the use of the solution of nitrate of silver (two grains to the ounce). If fainting comes on stimulants

should not be used, except the action of the heart is very feeble, and the carotid arteries in the neck cannot be felt beating, they so increase the pain and inflammation of the back.

A case is hardly ever met with where stimulants ought to be used after flogging; the best method is to cover the man lightly and move him, stretched out on a mattress, to the open air: the feet may be rubbed and stimulant salts applied to the nostrils.

When a bruise has been followed by the formation of abscess, the patient must be fed generously and poultices applied: when the matter comes forward, open the abscess and again poultice. When matter ceases to flow, touch the edges of the wound with lunar caustic and apply a little piece of sticking plaster.

END OF PART THE SECOND.

PART III.

Sec. 1.—Observations on Tropical Diseases, and their Treatment.

The Bengal fever, the yellow fever, the African remittent, or bilious continued fever, appear to be all slight varieties of the same class, called, technically, 'typhus icterodes,' or, what in common language might be termed 'typhus fever mixed, or complicated with jaundice.'

It will be profitable to mark well the causes which are supposed to excite this fever, and

Secondly, The state of the vital powers of the body, labouring under this fever.

The causes must be mentioned to guard responsible heads of crews and detachments of men against permitting them to remain to operate in the production of disease.

The foremost among the causes of fever we would mention to be the bad air of decaying vegetable matter, whether from marsh miasm, or sleeping near the foot of forests, or near boggy places, where much vegetable matter is decaying. The most fruitful source of the most malignant form of this disease is uncovering a reservoir of water which is buried in a garden, to which putrid vegetable matter has been conveyed.

A second cause may be stated to be the effluvia of matter from the bodies and bowels of those affected with the fever.

Thirdly, The vapour of clothes wet with rain which is loaded with the miasm from marsh, forest, or bog.

Fourthly, A want of cleanliness and a current of air in those situations where several persons sleep in the same room, or are much crowded together.

A few plain rules may be formed from the above instructions.

First, To air well the tent, hospital, forecastle, or other situation in which many men sleep together.

Second, To keep such places very clean and dry, especially prohibiting clothes, wet with the rain, from being suspended, or allowed to remain there.

Third, To select such places as are elevated above the foot of marshes, or forests, for sleeping.

Fourth, To forbid strictly the men from sleeping in the open air, so that the loaded dew falls on them; for sleeping, the body is less able to resist disease than waking.

Fifth, As intemperance greatly predisposes the body to disease, it must be firmly prohibited.

Sixth, To separate the sick from the healthy; to remove at once all the filth and causes of bad effluvia, and insist on personal cleanliness.

We proceed now to say a word of the state of the vital powers of the body, labouring under the fever we term 'typhus complicated with jaundice.'

The most remarkable feature of this disease is the want of susceptibility in the body to the action of medicines.

And *Secondly*, the rapid tendency to putridity and corruption evinced by the matter which passes from the body.

The difficulty of affecting the body with even the most powerful remedies renders the practice, in these cases, peculiar and formidable to a degree to those, unacquainted with the nature of tropical fevers.

The commencement, course and termination of these diseases are so sudden, rapid and violent, that vigorous and determined efforts must at once be made to arrest it, or every chance of life disappears—there is no retracing a false step—no room for temporising.

Sec. 2.—Yellow Fever.

In the commencement of this attack there is prodigious prostration of strength and, generally, much dejection of spirits; a weariness and soreness is felt pervading all the body: the face has a peculiar expression of anxiety; the eyes appear prominent, yellow, and streaked with some red vessels; the lid falls and gives a marked expression of heaviness and dulness to the eye; the tongue is parched; the breath is hot, unpleasant; the pit of the stomach feels to the patient oppressed and he sighs involuntarily. It may be, in the course of a few hours, a shivering fit comes on with intense pain in the small of the back, violent headach and profuse vomiting of bilious matter.

But the vomiting does not remove the dreadful weight at the pit of the stomach, and the temples throb harder and harder, if any urine passes it is pale

and loaded; the skin, at this stage, is hot, yellow, flushed and dry; the pulse varies, but is mostly, small, rapid and wiry; the heart labours; the thirst is intolerable; the vomiting continues; the symptoms become aggravated; delirium succeeds; the breath is drawn laboriously; the eye rolls and the expression of the face indicates much suffering: the patient, after a time, becomes furious and can only be retained in bed by considerable exertion; the lips are dry and darkened, the mouth hot and parched; and these dreadful symptoms may continue for a day and a night and may be succeeded either by the death struggle, or a profuse perspiration may break out and relieve the patient, at least for a little while.

It is not uncommon for an attack to come on suddenly, without warning, and the first notice you may have is that a man falls, as if knocked down, or is in a fainting fit and, on being brought to, begins to vomit; forthwith, the symptoms above described are displayed.

The second *increase* of the fever soon succeeds to the delusive calm brought on by the sweating: the load is again felt at the pit of the stomach; the skin turns a deeper yellow; the lips, tongue, and teeth covered with brown, or black, thick matter, mixed often with a little blood; the head feels as it would burst, the vomiting and delirium come on; the face wears an expression of wild agony; the thirst is more intense; the breath very offensive: the stools intolerable; the belly is painful and assumes a still darker yellow. In the uninterrupted progress of the fever the remission of the second attack is less

marked and beneficial than the former, and the interval goes on diminishing till no remission can be observed.

But, after the third, or fourth day, the speech becomes unintelligible; the stools are black; the urine deposits a dark sediment, and passes away without the man's knowledge; the skin feels damp and coldish, especially at the extremities; the pulse intermits, is irregular and feeble; the eye and cheek are sunken; the mouth black, and wide open: constant pain is still experienced at the pit of the stomach, and the vomiting consists of black blood mixed with bile, and this stage of the fever is commonly known by the name of BLACK VOMIT which is, sometimes, continued to a frightful extent and ceases not till hiccoughs come on and death terminates the sufferings of the patient.

Appearances after Death.

May be briefly noted, with advantage, to confirm you in the method of treatment to be recommended for your adoption.

The BRAIN is generally healthy; though the head is the seat of such intense and continued suffering, there is rarely much else than a somewhat turgid state of the veins on the surface of the brain, not more than in those cases where men have died in much agony, where no complaint of the head was made.

BOWELS.—Small intestines ulcerated, gangrene seems to have pervaded all the tissues: patches about

the large intestines of inflammation, softened and tending to mortification: the external surface also inflamed.

The STOMACH, in cases where black vomit has come on, is ulcerated and filled with black matter, supposed to be blood, bilious matter and mucous. A large quantity of coffee-coloured matter is sometimes found in the stomach, which has a heavy fetid odour.

The *Blood-vessels* about the coats of the stomach are large, dark and increased in number; sometimes, many terminate in a knot, which has been partly eaten away and opened by ulceration.

TREATMENT.—As the examination of the lining of the bowels of patients who have died of yellow fever clearly indicates the disease to be violently inflammatory, tending to mortification, the treatment must be actively depleative.

And, first, a vein may be freely and largely opened, from which if a copious and easy flow of blood pours, enough blood may be taken in two, or three minutes. You are to produce a VIOLENT AND SUDDEN shock by bleeding, not merely abstract blood, wherefore you must obtain a rapid, copious flow; and this can only be done from a large vein and a large opening, (see remarks on bleeding, page 267).

Some good, practical men recommend one, or more veins in each arm to be opened at once, and blood to be taken till the patient faints. Certainly, it is indispensable, unless the first vein pours forth in a full, broad stream.

Secondly, Give from twenty to thirty grains of

calomel and two of opium, or, if you have it, half a grain of *acetate of morphia*, instead of opium; in the course of two hours it is possible that the vomiting will have thrown off a part of the calomel and opium; in which case, give twenty grains of calomel and a quarter of a grain of morphia, or one of opium, and depend upon it you will see a wonderful improvement. If, in two hours more, all sickness and vomiting has ceased, give one grain of calomel and five of extract of colocynth every three quarters of an hour, till the bowels are prodigiously purged; after the fourth pill if effect be not produced give a clyster, throwing up, into the fundament, two pints of soapy warm water, in which a handful of salt has been dissolved and four ounces of castor oil added. Get air into the room, tent, or forecastle, where ever the patient may be, sprinkle the room with a lotion made of fresh water a handful of saltpetre, and a third of vinegar, clear it of all superfluous clothes, or furniture. Cut off the hair close, keep the temples moist and cool with the above lotion, and, if sleep comes on, so much the better, wait with patience till the man wakens, when renew your doses of pills, giving one every hour. When the bowels have been violently, repeatedly, and copiously purged, give six, or eight grains of calomel and a quarter of acetate of morphia (or half a grain of opium) every three, or four hours. In the evening give ten grains of jalap, five of powdered scammony and two of calomel in addition to his usual dose, at its appointed hour.

Remarks.—Above, notice was taken of the great want of susceptibility to the action of medicines

which the body, labouring under this fever, displayed. It would astonish a young practitioner, the quantity of calomel which is required to produce any effect at all, and often the frightful doses taken previous to a decided benefit being perceived from its action on the system; many delicate individuals who have recovered for years and years from an acute attack of yellow fever, had taken during the attempt to dislodge it at least FIVE HUNDRED GRAINS OF CALOMEL, one half grain of which, on ordinary occasions, mixed with jalap, or colocynth would suffice to purge their bowels of any dark stool and procure, before their action had ceased, healthy, yellowish evacuations.

Three hundred grains of calomel during an attack of yellow fever given, in the course of the first twelve days, to a patient, is not reckoned inordinate.

Above, it will be found, that in the first three days and nights about two hundred and twelve grains are prescribed, and no provision is *there* made for any relapse either of sickness, or delirium after the second dose of medicine; because, in ordinary cases, and where every precaution is taken to prevent mismanagement, the sickness and delirium will not recur after the medicine has had time to produce its first, soothing effect.

Relapse.

Where this occurs after eight hours from the first dose, and six hours after the second dose of calomel, that is, where the vomiting and delirium again comes on,

Open two veins again, one in each arm, bleed till

fainting comes on, and then repeat your thirty grains of calomel and add one grain of opium, or a quarter of a grain of acetate of morphia: apply two, or three scores of leeches (if you can get them) to the LOWER PART of the belly along the line of the navel and right side and, when they will bleed no longer, apply a warm wet flannel bag containing camomile flowers: next day cover the belly with a blister; open the bowels; persist in the treatment above directed, till complete salivation is induced.

Relapse during Recovery.

Of this you may make your account as, for a certainty, unless you watch and restrict the *diet* of your patient and prevent his too early exposure to night air, and lolling on deck. It is to be treated as above directed.

DIET *during the attack.*—Till all sickness has entirely disappeared *nothing*, no not a drop of water, for it increases the painful symptoms ten-fold. After the bowels have been relieved, very thin barley-water, without sugar, but containing just a taste of lime-juice, may be given, measuredly.

The calomel and opium is best given in a little black currant jelly, or thick, very thick gruel in a teaspoon. When the patient is recovering he may be allowed some gruel, and then a little well boiled rice; the after diet, a little fresh animal food; and, when able to get about, for a day, or two, a glass of port wine: long must it be—months—before he may resume even his allowance of spirits.

Every man, who knows anything of soldiers and sailors, will keep a keen look out that no poor wretch afflicted with fever be dosed into his grave by his comrades giving him grog under the delusion of comforting and strengthening him.

A well-informed and experienced surgeon who has lately written on tropical fevers, gives the following admirable advice to captains of ships, when fever is in the vessel, or any of the men sickly, to prevent bumboats coming along side; not on any pretence to allow the men ashore, except between three and six in the afternoon for watering, wood-cutting and necessary provisions, and then never without a strict officer: and, last of all, to make every man drink his grog at the capstan. Without these provisions, sickness and death will haunt you like your shadow.

CLOTHING during the attack should be light, consisting of a linen sheet; when the patient is recovering he must not be permitted to expose himself without covering till quite hale and hearty.

COLD DRINK MUST BE OMITTED AND A LITTLE WARM RICE-WATER SUBSTITUTED when violent purging and bloody stools accompany this attack from the first, or supersede after twelve, or eighteen hours.

SEC. 3.—BLACK VOMIT.

Since the treatment of yellow fever is better understood, black vomit is comparatively rare, it is now met with as the termination of yellow fever and generally precedes the hiccough which announces a rapid dissolution. For particulars read page 213.

Sec. 4.—The African Bilious Fever.

This disease is very common along the north-western coast of Africa, Senegambia, Sierre Leone and Monrovia; it is found also at the Cape, at the island of Madagascar, and also inland at Houssa, Bornou and Kanem; it sometimes makes fearful ravages, especially when hot weather hath set in after heavy rains. In symptoms it so exactly resembles the yellow fever of the West Indies, above described, that it clearly belongs to the same class and it would be advisable if it were always called by one and the same name.

For advice respecting its treatment read the article written on Yellow Fever, Section 2 of this Part.

Sec. 5.—The Remittent Fever of Hindoostan, or Bengal Fever.

This is, evidently, closely allied to the yellow fever; it commences either suddenly by a swoon, which is succeeded by vomiting and delirium; or it is preceded by a short forewarning indisposition; frightful dreams, pale anxious countenance, violent headach, weight and oppression at the pit of the stomach, reddish, yellowish eyes and heavy hanging of the upper lid, the lower eye-lid looks greenish and dark, the appetite fails, there is thirst, stupor and the head feels unusually heavy and, sometimes, a stunning sound is heard.

The next stage is a coldish sensation in the body,

a shivering fit comes on, attended by an increased pain and weight in the stomach; vomiting succeeds; the patient, in part, loses consciousness; the pain at the stomach and vomiting increase; the face is swollen and red with straining; the pulse sharp and hard; the heart labours and beats more rapidly: all the symptoms increase, delirium succeeds, and all the appearance of confirmed yellow fever display themselves, except that the skin is much about its natural colour.

After many hours *profuse* vomiting and general excitement, without warning, the skin becomes suddenly suffused with perspiration, the breathing, which had been much quicker, becomes more natural and the patient remains exhausted and quiet, apparently composing himself to sleep; this remission, or abatement of excitement, which is a distinct feature in this disease, has given to it its peculiar name of the REMITTENT fever of Hindoostan. It is well that it receives such a name, because it prevents your being thrown off your guard by such a delusive calm, which, indeed is quickly succeeded by an increase of every painful symptom; the sickness and pain arouses the patient and furious delirium renders him very hard to be managed.

If, by this time, active treatment of a right kind be not resorted to, the sequel is, the skin becomes darker; sometimes a brownish yellow; moist, cold; blood and corruption is passed by the stools, which are intolerably offensive; the mouth and tongue is covered with dark sores the pulse is irregular, small and weak; vomiting goes on without intermission,

and, sometimes, a large quantity of blood being vomited, death closes the scene.

But where *treatment* is successful, after eight, or ten hours the vomiting ceases, the patient becomes calm; the REMISSION continues for a long period, and, when succeeded by *sickness*, little, or nothing is ejected by the mouth; but the bowels begin to purge themselves violently of filthy, foul, dark, stinking stools: the medicines continue to force away a prodigious quantity of bilious matter by the bowels, and a long remission of pain occurs, when the patient remains for an hour, or two in sleep: the thirst, which had been from first most urgent, is abated, and little, or no relapse of sickness is experienced.

At the end of eight-and-forty hours the patient becomes salivated; the stools begin to assume a natural appearance, and active purgatives, careful diet and cleanliness, assist in restoring him rapidly to health.

There are two states of the bowels of an opposite nature which accompany this disease; one is constipation; the other is a prodigious, painful looseness of the bowels, or diarrhœa complicated with a discharge of blood, bile, and slimy matter.

The early TREATMENT in both cases is the same; first, a large quantity of blood must be taken from both arms by a *large* opening in a vein of each; the sooner fainting is produced the better, therefore, the more freely the course of blood flows, the better.

Then a scruple of calomel and a grain of opium must be given in a little jelly, instantly, and repeated in a couple of hours.

If, in eight hours, sickness and delirium come on; take off the bandages and tie the arm so as to get a couple of pints of blood away, and, if needful, open another vein.

The more active your treatment now, the less you will exhaust the patient's strength ultimately, for the less effect will the fever produce upon him.

After the sickness has subsided for an hour or so, give ten grains of jalap, five of scammony and five of calomel by the mouth; then if, in two, or three hours a profuse purging does not come on, give a clyster, throwing up the fundament three, or four ounces of castor oil in two pints of soapy warm water, in which a handful of salt has been dissolved: after the bowels have begun to discharge a quantity of bilious, filthy, stinking matter, give every hour and a half, ten grains of colocynth and four of calomel, in two pills: in eight hours more, commence salivating the patient, by giving, every three, or four hours, five grains of calomel and half a grain of opium, and let the colocynth and calomel pills be continued night and morning to keep the bowels open. A large blister may be put on the belly, covering it, and cold lotion, made of a wineglass of spirits, two pints of fresh water, a handful of saltpetre and a cupful of vinegar, may be applied by cloths to the forehead and sprinkled around the bed, or hammock. The hair must be cut close: the clothing may be a sheet; all clothes and furniture must be removed from the room, tent, or forecastle and the place kept sweet and clean.

The man will be urgent for drink, but, till the

sickness has quite subsided, it is madness to indulge him; as it only increases the vomiting. Afterwards, if there be no bloody flux, he may have cold barley-water, or rice water, into which a little lime-juice has been dropped; but of this only a limited quantity may be given.

For further treatment read the article on Yellow Fever, and follow the advice there given.

When bloody flux has throughout accompanied the fever, the treatment is the same as above described, up to the giving the clyster, which may be *merely*, thin barley water and a little sweet oil, in this case; and, when bilious stools have come away, and three hours have elapsed from the former dose, give eight grains of calomel and one of opium: renew the dose every four hours; taking care by occasional doses of the jalap, scammony and calomel powders, given twice in the twenty-four hours, and followed by clysters, if necessary, to keep the bowels in a tolerably active state.

The DIET, in this case, is thin, warm, rice-water, or barley-water, with nothing but a little sugar to make it palatable.

This loose state of the bowels will sometimes change suddenly to obstinate constipation, in which case diminish, by one half, the opium and give the opening powders four times in the twenty-four hours, and administer in each clyster four ounces of castor oil.

It is of use, especially in fever complicated with bloody, slimy stools, to add to all above directed, this *treatment*; let from sixty to eighty leeches be applied to the belly (if to be obtained) and the next

day put on a large blister, which rarely fails of producing great benefit.

For hints about relapse and recovery, read the last part of the remarks on Yellow Fever.

Sec. 6.—Ague.

There are three kinds of ague.

First, Daily called quotidian ague, coming on every morning.

Second, Tertian, coming on every other noon.

Third, Quartan, coming on, at the interval of every seventy-two hours, in the afternoon.

Each ague fit has three stages : *First*, the cold; *Second*, the hot, and the *Third*, the sweating.

The *cold stage* begins with yawning; a sense of weakness and heaviness; the face turns pale; the features shrink; the man looks smaller, or shrivelled; he feels cold, and then begins to shake, and his teeth to chatter; his loins, head and back ache greatly; his breathing is laboured and quicker, and the mind is stupified : after a while

The *second stage* comes on, when, the coldness and shaking ceasing, the body becomes hot, the face flushed, skin dry, temples throb, the head feels hot and painful, the respiration full and heaving, pulse hard, tongue foul, and delirium is apt to succeed; then comes the

Third stage, when the temples break out into perspiration, which extends over the whole body, and rolls off in large drops; the fit goes off, the breathing becoming natural, the head relieved, and all the organs act healthily.

In common cases it will be successful to give five grains of the blue pill with eight of powdered rhubarb, every other night, and from two to six grains of sulphate of quinine three times a day.

But in foreign climates the men will often suffer under other diseases in conjunction with ague, as, for example, a bilious looseness in the bowels with hardness and some pain about the region of the liver, the eyes and skin yellowish, the tongue covered with fur.

TREATMENT.—By no means give quinine in these cases, but persevere in a very different treatment.

You are told, in books, that bleeding in this disease is useless, and secondly, that nothing can be done till after the third, or sweating stage has passed off.

Both axioms, or sayings are erroneous, in a measure, although, it may be granted, that if the second be true, the first is so also. But the *bleeding* will be found eminently serviceable, if effected at the commencement of the attack, or during the COLD STAGE of the fit: it will, if boldly done, shorten the attack wonderfully, and almost entirely cut off the second stage.

From ten to fifteen grains of calomel and one of opium may be given at the same time, and, after seven or eight hours, the bowels relieved by a scruple of jalap and a clyster of two pints of warm water, a handful of salt and two ounces of castor oil, injected by the fundament, and allowed to remain as long as the patient can bear it.

Rub strong mercurial ointment over the right side from the ribs to the hip, and let a little, warm gruel, or rice-water be taken for a day, or two.

The gums should be made sore, by giving two grains of calomel and half a grain of opium, every four hours, and the body should be clothed in flannel.

Salt food, acid, or cold drinks and, especially, all liquors, wines and beers, must be rigidly abstained from.

Drunkenness and exposure to dews, loaded with unwholesome air, bring on this disease and should, therefore, be guarded against.

Sec. 7.—Inflammation of the Liver

Is the most common disease in the Tropics; no fever, no sickness attacks Europeans abroad unless complicated, in someway, with some form of inflammation of the liver: and what should excite the concern and sink deeply into the mind of all to whom is intrusted the care of a ship's crew, or of a detachment of men, is, that the disease may, and most frequently does arise, increase and fix permanently its station in a man whose health has attracted little, or no attention. It is notorious, that long-standing diseases of the liver are frequently detected after death in bodies where no such affection has been suspected, but, for all that, it has shortened, perhaps considerably shortened, the life of the individual.

When we reflect how inevitably injurious all stimulating condiment is to the liver, and how prone Europeans are to exceed in stimulants in hot climates, we shall less wonder at the almost universality of disease of the liver among Europeans in the Tropics, than at the madness of continuing in the indulgence in and abuse of liquors and heating substances.

INFLAMMATION OF THE LIVER may be considered in two forms; *First*, as an ACUTE, *Secondly* as a DULL, LONG-STANDING disease.

Both attacks in hot climates are very apt to display themselves by a looseness of the bowels, or flux accompanied with pain, gripings and a passing of slimy matter. The acute attack comes on with constant sharp pain in the right side, extending to the belly; the shoulder aches, and, under the collar bone, passing through to the back, is severe pain; the blade bone is also affected, and is sore to the touch: the urine is saffron-coloured and scanty; the bowels costive, although slime passes sometimes painfully and frequently; the pulse is hard and frequent: by pressing the right side under the ribs considerable pain is caused; there is fever, great thirst, pallor, anxiousness and great depression of spirits. Sometimes, shivering fits come on, vomiting may succeed; great pain is experienced in breathing, and, after some days, the eyes turn yellow, and the skin looks thick, turbid and unhealthy.

The TREATMENT for acute inflammation of the liver consists in taking away rapidly an abundance of blood: the patient must be freely and boldly blooded from one, or two veins in one, or both arms: the more blood taken away at once and at first, the less enfeebled will the patient become ultimately; at the same time give twenty grains of calomel, twenty of *compound* Ipecacuanha powder (Dovers') and two of James's powder (or antimony powder).

After four hours repeat the dose: open the bowels, in four hours more, by a scruple of jalap and five

grains of scammony; then continue your calomel as above prescribed, every four hours, till the man is salivated.

Apply a large blister to the right side and repeat the blister in two days; afterwards, keep on perpetually a plaster of gabanum on leather and let a belt of flannel retain it in its place.

DIET.—There will be thirst, but be sure nothing acid—nothing cooling, and, still less, nothing stimulating be given; let a little thin, warm barley-water, or very thin gruel, or rice-water be the ONLY food.

COVERING; the object is to produce profuse sweating, therefore, the man should be covered with a blanket, but not over heated.

Cleanliness in the room, tent, or forecastle is proper: no wet clothes can be suffered to remain there.

N. B. Watch the diet, be cautious about *grog*.

Second.—Dull, long-standing inflammation of the Liver

Is known by yellow eyes; thick, yellow skin; loss of appetite; loss of flesh; acid eructations; costiveness; wind; pains about the right side and stomach; clay-coloured, or slimy stools; high-coloured urine, with clouds and thick sediment; dull pain in the right shoulder; uncomfortable breathing, and, sometimes, bloody flux: there may be cough and fever, and much depression of spirits and apathy

The TREATMENT is precisely the same as above described.

The prospect of final recovery is not promising.

Sec. 8.—Dysentery, or Bloody Flux.

In the rainy season of the year in the Indies, the months of August, September and October, dysentery breaks out among the natives, as well as the Europeans, spreads rapidly and prevails like a contagion.

At this season, it is highly injudicious to encamp near low, marshy ground, or at the foot of a forest: care must be taken to keep the men dry, and temperate: for, at best, the bloody flux is one of the most fearful enemies to contend with, which the tropical climates can afford.

Dysentery commences with a sickness at the stomach, chills, succeeded by heats, flatulency and occasional, slight vomitings. Then come on griping, a continual, painful passing of matter, with a rumbling noise and still increasing pains.

A frothy, bloody matter comes away, or a thin, brownish, stinking fluid mixed with shreds and coloured with a substance like old blood, washed from a dirty vessel. Sometimes blood alone is released, and if any bits of ordinary matter pass in knots, relief is given at once, for the time.

Various are the appearances, presented by the stools, from the likeness of marrow to that of the white of egg.

The symptoms continue increasing in virulence, and the patient cannot leave the close stool, head, or bucket.

Where the case is neglected a fetid, involuntary

discharge comes from the bowels; the man is emaciated and loses strength apace; putrid matter is all that comes away, and the patient is soon taken off.

It frequently happens that Dysentery is complicated with some fever, either the African continued, or remittent, or with Ague. It is generally complicated with inflammation of the liver; and, therefore, after death, in addition to ulcerations and gangrene of the large and lower bowels, and inflammation of their coverings, you may find abscess of the liver, or patchy mortification of the small intestines.

When complicated with ague, the spleen is sometimes found prodigiously enlarged; or the seat of abscess; or disorganised from inflammation.

The TREATMENT which should be employed is, therefore, very obvious.

Open one, or two veins in either, or both arms, bleed to fainting.

Give twenty grains of calomel, twenty of compound ipecacuanha and two of James's powder and repeat the dose in three, or four hours; at the expiration of eight hours, give a scruple of jalap with five grains of powdered scammony, and a clyster composed of two ounces of castor oil and two pints of thin barley-water.

Put a blister over the stomach and continue to give five grains of calomel and a quarter of opium, every three hours, till the patient is salivated.

If the attack be renewed, bleed freely again, and give the twenty grains of calomel, etc., then rub over the right side, for two hours, strong mercurial ointment.

DIET.—NOTHING but warm, thin barley-water and, when the patient is recovering, a little sago, or arrow root: no stimulants, no acids, no fruits, no vegetables.

Clothing.—As perspiration relieves the patient, let him be covered with a blanket and, ever after, wear a flannel belt.

SEC. 9.—DRY BELLY-ACHE OR WEST INDIAN CHOLIC.

This is very commonly known to arise from drinking new-made rum: it shows its appearance less violently than most tropical diseases; first, pain is felt at the pit of the stomach, then it extends to the navel and shoots with violence to either, or both sides of the body; then spasms come on, there is sickness, thirst, anxiety, feverishness and excessive costiveness; the pain is aggravated by pressure, and hard knots, or lumps may be felt about the belly. If no treatment be resorted to, the spasms and pain increase, and the bowels cannot be opened; vomitings of stinking matter from the intestines succeed; gangrene of the bowels comes on, and the patient is lost.

The TREATMENT is, to bleed freely, to fainting, from the arm; give twenty grains of calomel instantly, and, in two hours repeat the calomel, adding twenty of jalap. In one hour more, inject three ounces of castor oil into the fundament, in two pints of soapy water in which a handful of salt has been dissolved: give five grains of calomel, five of scammony and five of jalap, every three hours, till the bowels are thoroughly relieved. If, in fifteen hours, the spasms

should come on again, bleed freely from the arm, repeat the scruple of calomel and the injection. If leeches can be procured put on fifty or sixty; give the calomel till the mouth is very sore and, if the bowels should become so relaxed that the calomel will not affect the mouth, add to each dose a quarter of a grain of opium, but this must not be done in the early stage of the disease.

Free blood-letting and a quantity of calomel will cure dry belly-ache in a few hours; *moderate* blood-letting and but little calomel may save the life, but is often followed by incurable palsy, which suffers the poor man a year, or two to live, but only in great sorrow and much wretchedness.

DIET.—At first, nothing but warm *barley-water*: when better, sago: when cured, he must be careful of stimulants.

SEC. 10.—CHOLERA MORBUS.

The worst cases of cholera admit of no treatment, as they terminate in little better than half an hour: but common cases commence with shivering, purging of thin, watery fluid containing shreds of matter, like pieces of boiled rice; vomiting succeeds; the features shrink; cramps and spasm come on; the legs become blue and cold; the symptoms abate; the breathing becomes rapid, and death ensues.

TREATMENT.—To bleed freely and give twenty grains of calomel and two of opium, every three hours, is generally recommended.

Some cases have been wonderfully successful,

treated in the following way: put the patient on a board covered with a sheet, sponge the body with vinegar and water; remove to an open window, and give cold water to drink.

Where life has been apparently suspended for a considerable period, the above treatment has been successful in restoring animation.

Intemperate habits render the body liable to all kinds of diseases and offer the worst prospect of recovery, when attacked.

Sec. 11.—Inflammation of the Bowels.

There is considerable fever and acute pain over the region of the whole belly: around the navel there is excruciating pain; there is sickness and vomiting of bile: after a while a spasm comes on, in the belly, which is prodigiously increased by pressure; there appear to be lumps as of hardened substances in various places; the costiveness is, almost utterly invincible, and the urine is passed with pain; it is turbid and scanty.

The pulse is very peculiar, strong, wiry, jerking, it thrills under the finger; the breathing is quick; face anxious, and delirium comes on; mortification is to be apprehended and then death is inevitable.

At best, inflammation of the bowels is a most dangerous and intractable disease.

Sometimes, in the first few hours, the patient is taken off: sometimes, unexpectedly, gangrene occurs and, delirium coming on, death ensues in a day, or two after the attack: sometimes the patient recovers the first attack, and is, subsequently, taken off with

a fresh one. It is always a thing to be guarded in giving an opinion about.

TREATMENT.—Bleed freely from the arm; put sixty leeches on the bowels; give ten grains of calomel and twenty of jalap, and inject four ounces of castor oil in warm barley-water.

After three hours, give ten drops of antimonial wine and ten of tincture of henbane and repeat the dose every two hours; repeat the injection, in two hours: and in four, repeat the calomel, if the bowels be not relieved.

The antimonial wine is the sheet anchor: after the leech bites have done bleeding put on a large blister.

Next day, if considerable improvement does not take place, bleed again and repeat all the medicines and clysters.

DIET.—Nothing but thin, warm barley-water

SEC. 12.—DIARRHŒA, OR LOOSENESS OF THE BOWELS.

If purging comes on accidentally and is merely recent, not accompanied with sickness, nor resulting from injudicious food newly taken, the *treatment* may be two drachms of tincture of rhubarb (or twenty grains of rhubarb and half a glass of brandy) half a drachm of aromatic spirits of ammonia, and a quarter of a grain of acetate of morphia, or a grain of opium taken in a tablespoonful of water.

At bed time, give two grains of calomel, four of extract of henbane and one drop of caraway oil made into a pill.

If sickness precedes the attack, and the patient can keep nothing down, give two teaspoonfuls of antimonial wine in water and repeat the dose every half hour till the stomach is thoroughly relieved. In three hours, give a soda powder, or a bottle of soda water. At bed time give the pill above prescribed and a black draught in the morning.

If the purging be long-standing, or constitutional, or brought on by moral causes, the best medical remedy will be five grains of powdered mercury with chalk, with five grains of compound chalk powder taken at bed time, and in the morning, for a few days. A teaspoonful of tincture of cinnamon may be put into half a tumbler of warm brandy and water and taken with advantage.

If, with the purging, there be much pain, fever, heavy eyes and quick pulse; or, if the attack have come on with shiverings, the case must be looked to, observe if fever be setting in, and treat accordingly.

Sec. 13.—Rheumatism

Is of two kinds; acute, and long-standing.

The *acute form* is known by coming on with shivering fits as other fevers; heat, pain of the head, increased rapidity of breathing, weak, full pulse, and tongue white and furred. After a while, the pain settles in some of the large joints, or the soles of the feet, or a general soreness over some limb, or even all the extremities, which swell considerably.

It will be often found, that when warm in bed, the patient is most sorely pained, the affected parts turn

red and swell. Profuse perspiration may come on, which in the *acute stage* does relieve the *symptoms of fever*, and does not allay the pains of the joints.

TREATMENT.—The greatest benefit will be experienced by opening a vein in the arm and taking a pound of blood, or so; confine the man to his bed, or hammock and give half a grain of calomel and half of opium, every three hours, and an opening pill, every night, of five grains of compound extract of colocynth and one grain of calomel.

Twenty or thirty leeches upon the swollen joint will much comfort and relieve the patient.

DIET.—Barley-water only.

Second.—Long-standing, Chronic Rheumatism

Is where the fever has subsided, or where no fever has preceded, and the swelling, pain and stiffness of some joint, or limb is all that is complained of. Often, when the patient is warm in bed, the pains are relieved.

The patient must be clothed in flannel next the skin and take a pill of one grain of calomel and five of compound extract of colocynth every night and morning.

Thirty drops of the wine of the seed of colchicum (meadow saffron) taken in camphor julep, three times a day, may be of great service.

When, for years, rheumatism has afflicted a man, relief may be procured by the most rigid abstinence, such as, three ounces of food in twenty-four hours,

and fainting prevented by a dessert spoonful of brandy, in a wine glass of water, twice or three times in the day and night.

Sec. 14.—Rheumatic Gout in the Eye.

Redness and pain in the eye come on with severe gouty pains in the socket; no cause can be assigned, but often gout may be traced in the family.

The Treatment is to put two blisters behind the ears and give one drachm of tincture of hops, two ounces of the infusion of cascarilla and ten grains of carbonate of ammonia, three times a day. An aperient pill may be taken at night.

Diet.—A little animal food when the bowels have been freely relieved.

Rheumatic Gout often attacks weakly people, and may be found in joints of legs and toes.

The Treatment is the one above prescribed.

Diet.—Generous; wine, or brandy and water may be of service.

Sec. 15.—Inflammation of the Lungs.

This disease is preceded by fever; quick, hard pulse; rapid, short breathing; the pain increased by any attempt at a deep inspiration: the patient cannot lie on the side affected, nor yet lie down at all, if the disease extends widely over the lungs: sometimes cough, and a peculiar feeling, when coughing, of pain and soreness is experienced.

Treatment.—Open a vein in the arm, take blood

to fainting, put a large blister over the chest and give ten drops of wine of antimony and ten of tincture of henbane, every three hours; at bed time give two grains of calomel and half a grain of opium in a pill, and repeat the antimonial wine in the morning. During the day open the bowels with five grains of calomel and ten of jalap, and a clyster of two pounds of barley-water in which a handful of salt is dissolved, and two ounces of castor oil.

Clothe the patient in flannel and let the only food be barley-water.

When symptoms improve, give half a grain of calomel and a quarter of opium, every three hours, till the gums are sore. Let the patient be very guarded against exposing his chest to the cold wind, when uncovered, ever after.

Sec. 16.—Inflammation of the Kidneys.

This disease is liable to be confounded with colic, passing of a small stone from the kidney to the bladder, or lumbago.

It may be distinguished from colic by the pain being seated generally on *one side* of the small of the *back*, for inflammation does not commonly attack both kidneys at once, and a numbness of the thigh on the same side; also, on the same side, the testicle is drawn up and feels pained. The urine is high-coloured and frequently passed; if a little be put in a common vessel and heated, it will become clouded with a white substance, resembling the white of an egg immersed in boiling water. The body is costive

and colicky. Much pain is experienced in the attempt to sit, or walk upright. Vomiting is not uncommon. The fever and excited state of the pulse distinguish it from the passing of gravel, or small stone into the bladder.

There are not many cases where the patient will not at once insist, from his sensations, that it is the kidney which is affected.

In men who have been frequently troubled with gout, inflammation of the kidney is not rare.

TREATMENT.—Much must depend upon the constitution of the sufferer and the probable cause of the disease.

Suppose a case to arise from a blow, or cold taken after violent exercise, the man strong, plethoric and inflammatory. Bleed to fainting and give five grains of calomel at night, and a black draught in the morning.

DIET.—Linseed-tea, and nothing else, till all pain in the back hath subsided.

Continue the calomel every night and black draught every morning.

But, what is far more common, suppose at the end of an attack of gout, which has greatly reduced the patient, an attack of inflammation of the kidney comes on. The best *treatment* is thirty drops of tincture of colchicum, twelve grains of carbonate of ammonia and two ounces of infusion of gentian every five hours, night and day. Bleeding has been tried over and over again and salivation, but they have only protracted the attack. Fears for the life of the patient are not ill founded.

There are many cases where the strength and age of the man permit you to take blood, by cupping, from the loins and to give five grains of extract of uva ursi, five grains of carbonate of ammonia and two ounces of infusion of buchu leaves every five hours, night and day, and a pill made of half a grain of calomel and five of compound extract of colocynth, every night, for a week. The *diet* may consist partly of animal food, but chiefly of barley-water: all acids and stimulants do mischief.

Sec. 17.—Dropsy.

There are seven, or eight kinds of dropsy. Mostly it is merely a symptom of some disease of an internal organ which is chronicly affected; such as inflammation of kidney, liver, covering of the bowels, etc.

Treatment.—It is impossible to direct the method of cure without a knowledge of the organ affected primarily. It can only be added, that watery purgatives, such as elaterium, in half grain doses, have been known to remove large quantities of water and greatly reduce the bulk of a patient who has long suffered from an accumulation of water in the chest, belly, or legs.

Still no directions can be given suited for all the various forms of dropsy, which depend on so various a class of diseased organs.

Sec. 18.—Coughs and Colds, etc.

Are, commonly, accompanied with soreness under

the breast bone, thickness of the voice, coughing, uneasiness and swelling about the glands of the throat, which will be found, inside, red and inflamed, slight expectoration and running from the nose.

TREATMENT.—Let five grains of blue pill and five grains of compound extract of colocynth be made into two pills and given at bed time; upon the succeeding morning give a black draught.

To allay the irritation from the cough, mix together half an ounce of henbane, half an ounce of sweet spirit of nitre, half an ounce of syrup of white poppies and two drachms of tincture of squills, of which mixture a teaspoonful may be taken two, or three times a day, when the cough is most troublesome.

Continue the pills at night and black draught in the morning for four, or five days.

DIET.—Gruel and tea for a day, or two.

An aggravated form of this affection is known by the term 'Influenza,' and which has the following symptoms, added to those above detailed; pains in the legs and small of the back, feverishness, headache, listlessness and a sense of great lassitude, the pain in the front of the chest extends to one, or both sides of the chest.

TREATMENT *for Influenza.*—Apply a blister over the sor part of the chest: give the medicines above prescribed and, for a day or two, let the abstinence be rigid, the food consisting merely of thin gruel, barley-water and weak tea.

Sec. 19.—Cramps,

When habitual and constitutional, are incurable; when accidental, depend upon the state of the stomach and bowels.

Treatment.—Five grains of blue pill at night and a black draught in the morning.

Diet must depend upon the state of the tongue, which, if foul, should consist of a little tea and barley water, for a day, or two: if clean, may be generous, and not without a glass, or two of good wine.

N. B. It is sometimes requisite to repeat the pill at night and black draught in the morning for several days.

Sec. 20.—Gravel.

If a *red* gravel, or sediment be left in the chamber utensil, with some pain in the small of the back,

The Treatment should consist of twenty drops of solution of potash (liquor potassæ) with thirty of tincture of henbane (if to be procured), three times a day, in a glass of water.

The bowels must be well relieved with castor oil and

The Diet must be a very moderate quantity of fresh animal food with bread, once a day, gruel and linseed-tea, or barley-water for the rest.

If great pain in the small of the back indicates the passing of a stone into the bladder from the kidney:

The *treatment* may be, a warm bath, a cup of linseed-tea into which ten drops of turpentine have been dropped: afterwards, rest, opening medicines and the above prescriptions must be followed.

If the gravel be *white*

Give half an ounce of castor oil at bed time and ten drops of muriatic acid in an ounce of camphor julep the next day.

If circumstances allow of it, light sherry, or hock may be taken at noon, and mixed animal and vegetable *diet* will be proper.

SEC. 21.—GOUT

Is most frequently preceded by a sense of great coldness in the part affected, especially the foot and leg, no perspiration can be felt; a prickliness is experienced in the part, or, sometimes, in both the extremities.

The stomach is cloyed, and indigestion, uncomfortable flatulence, with languor and a sense of feebleness succeed.

Mostly the urine is pale, and the bowels costive, Some night, it may be, the patient is awakened with violent pain in the first joint of the great toe, he has a sensation as of cold water being poured on his foot; to this succeeds feverishness and a severe throbbing pain in the toe, which, having continued for some hours is followed by the breaking out of a gentle perspiration, when the agonizing symptoms are mitigated and sleep steals upon the patient, which is mostly broken by a recurrence of the paroxysm.

In a few days the pains, which have been gradually subsiding, cease altogether and an itching is felt in the affected joint.

During the attack of gout the part is swollen and

red, excessively painful to the touch; often, the weight of clothes, or the mere shaking of the bed, produces anguish.

Chalk stones are, sometimes, found in the joints, stomach, kidney, or bladder after a man has been long troubled with gout.

TREATMENT.—For the first day, prohibit animal food and give half an ounce of castor oil: the second day, make a mixture of a fluid ounce of tincture of hops, the same quantity of the 'wine of the seed of the meadow saffron' and half a drachm of carbonate of ammonia, in a pint of bitter infusion, (either infusion of gentian, or cascarilla) and order two tablespoonsful to be taken every four hours.

Some wines uniformly produce an attack of gout in some people: what wiseacres such men are to persist in using them.

OBSERVATIONS.—(*a*) Keep the foot in flannel and let the patient understand that, do what he may, it is *best* to wait with patience till the attack subsides of its own accord.

(*b*) The celebrated Dutch drops are composed of the tincture of colchicum (meadow saffron) as their effective ingredient.

(*c*) When gout has suddenly been arrested and the stomach is attacked, hot baths must be used, brandy and water given and the feet must be enveloped in mustard poultices.

(*d*) When strong purgatives have been given to young people at the commencement of an attack of gout, which is hereditary, and thus delayed its paroxysm, it is most harrassing and vexatious for both

medical attendant and patient, for a long sickness, with little progress towards health, and much languor and loss of flesh and strength is the best that can be anticipated.

(*e*) Gout attacks the lower bowels, the eyes, the gums, the throat and other parts of the body, especially of delicate, abstemious, sedentary people.

A little castor oil may be taken at night and an ounce of infusion of gentian and four grains of carbonate of ammonia, three times a day.

Good, generous *diet* is required, after the second day of such an attack.

Sec. 22.—Lumbago.

Pains in the loins and stiffness often come on, suddenly, in the act of stooping, lifting a heavy weight, or active exercise.

Treatment.—A warm galbanum plaster spread on leather, or a common poor-man's plaster may be kept upon the loins. The bowels are to be relieved with castor oil; and twenty drops of tincture of henbane, thirty of sweet spirit of nitre, and six of solution of potash may be given, three times a day, in a wine glass of linseed tea.

Diet.—Fresh animal food, no wine, or spirits.

When every other means have failed, twenty drops of the wine of the seeds of colchicum (meadow saffron) in a glass of water, three times a day, have been known to effect a speedy cure.

In these cases, five grains of blue pill must be given every other night, for eight, or ten days.

Sec. 23.—Spasms.

People subject to confined bowels, if they have eaten any thing which disagrees with them, are liable to spasms in the belly. It is of the greatest importance to distinguish between this disease and inflammation of the bowels, the state of the pulse will prodigiously assist you, which in spasms is natural: and the occasional eructations, or passing off of wind affords great relief in spasms, though none in inflammation.

Treatment.—Give an ounce of antimonial wine in a glass of warm water, and then insist upon the patient's drinking more warm water. After the vomiting has ceased, give two teaspoonsful of sal volatile and an ounce of castor oil in a little cold water.

Clothing should be warm, to encourage perspiration.

Sec. 24.—Tic Doloreux

Is known by a throbbing pain coming on in the course of any of the nerves, but, especially, those situated above, or below the orbit, along the lower jaw, or the side of the ear.

To this throbbing succeed the most intolerable shootings of pain, which last for a considerable time and when they subside much languor and weariness are left.

Treatment.—Open the bowels well with castor oil, or five grains of blue pill and a black draught, then give twenty grains of carbonate of iron three, or four times a day.

DIET.—Fresh animal food, bread, and a little port wine.

DIRECTIONS.—(*a*) A plaster of pitch, to which a quarter of a grain of solanine (the vegetable alkali of the 'bitter sweet') is added, is recommended to be put over the seat of the pain—sometimes, it affords relief.

(*b*) The essential oil of tobacco, diluted with four times its quantity of lard, or sweet oil, rubbed over the part will, often, relieve the pain instantly.

(*c*) A plaster of the extract of belladonna has been applied over the seat of pain and done good.

(*d*) Equal parts of the extract of belladonna (nightshade) and opium made into a paste, applied over the part, is by some people preferred.

(*e*) Half a grain of nicotin (the peculiar acrid principle of tobacco) has been mixed up with a pitch plaster and kept over the seat of pain. It affords relief, but its use is accompanied with danger. This is no objection to the person who suffers from an acute attack of tic doloreaux.

(*f*) SOMETIMES, when every thing else has failed, six drops of Fowler's solution of white arsenic, given in a glass of water, three times a day, has cured the patient.

SEC. 25.—THRUSH IN ADULTS, COMMONLY CALLED APHTHÆ,

When displayed in a few white specks, or ulcers on the tongue, gums, or inner surface of the cheeks, ordinarily, depends on some imprudence of diet.

TREATMENT.—Five grains of blue pill at night and a seidlitz powder the next morning may be given, and the dose repeated every succeeding day, for a week, or so.

DIET, in people subject to thrush, should always consist of fresh food and a little wine.

When these aphthæ extend down the throat they infect, often, the stomach and bowels and render the case alarming.

TREATMENT.—Two grains of blue pill and one of James's powder, to be taken at night, and two grains of sulphate of quinine dissolved in twenty drops of elixir vitriol, may be taken in two ounces of compound decoction of sarsaparilla, three times a day.

DIET.—As before directed.

SEC. 26.—CONTINUED FEVER, OR SYNOCHA

Is, not uncommonly, seen after drinking cold water, when heated by violent exercise: also, after giving way to violent, or continued passion, whether of grief, or rage: also, from the sudden stopping of some accustomed evacuations, or discharges, as from piles, clap, sores, or the like; also, from eruptions suddenly repelled.

It is preceded by a sense of languor and weariness, a swimming in the head, shaking fits, pains in the thighs, loins, and back of the head and neck: there is redness of the face and eyes, much complaining and lowness of spirits, great thirst, intense heat, quick breathing and sickness; the skin becomes hot and dry, the tongue *scarlet* at the edges, furred at

the middle and back, the urine high-coloured and scanty, pulse hard and full, and the memory impaired.

If the symptoms increase in violence delirium supervenes, the stools pass involuntary, typhus fever comes on, and hiccough indicates the close of the case.

But, if by the eighth day, the symptoms of fever abate, or, if by the fourteenth day there he no increase of disease, the case may be regarded as favourable.

TREATMENT.—In the first stage give a teaspoonful of antimonial wine, in warm water, and repeat the dose in a quarter of an hour. When vomiting has ceased (or, if the patient sleeps but does not vomit it is as well) give four grains of calomel and five of the extract of henbane and a black draught in eight hours more.

When the bowels have been well relieved, give from six to ten drops of antimonial wine every four hours, and a grain of calomel and four of extract of henbane every night.

After the third, or fourth day omit the use of the antimonial wine and give a compound colocynth pill every four hours.

DIET.—Nothing but barley-water, or cold water with a little lemon-juice in it, and weak tea.

Hardly a case ever does badly except when the patient is killed by injudicious food, or food taken too soon.

N. B. This fever is peculiar to temperate climes.

Sec. 27.—Typhus Fever.

In marshy, or badly ventilated, or cold and damp situations this disease is very common and proves a great scourge.

It is preceded by depression of spirits, a sense of utter prostration of strength, pains in the head, small of the back and stiffness of the limbs: one or two shivering fits come on; the temples throb; the pulse is hard, quick and small: one of the most painful symptoms is the weight and oppression felt at the pit of the stomach; the skin is hot and dry; breathing oppressed and a kind of sob involuntarily arises. The lips are hot, parched and dark; the eyes full, heavy, tinged with little red vessels and peculiarly indicative of torpor: as the fever sets in, which it does apace, the pulse becomes very rapid; there is moaning when asleep, and slight delirium when awakened; the tongue, teeth and lips are covered with brown fur; the urine is high-coloured, scanty and offensive; the bowels discharge a dark and filthy matter; the weight at the pit of the stomach is increased and there is great complaint about the head. Small purple spots are detected in various parts of the body, technically called 'petechiæ.' The prostration of the powers of the system is so complete that it has given the peculiar name to the disease 'typhus,' which in Greek signifies a void thing, emptied of its properties and powers; 'res inanis,' and used by Hippocrates to denote great depression of vital power (Τυφος). If these symptoms continue unchecked the body begins to putrify; the bowels pass a decom-

posed and fetid matter without the sufferer's consciousness; the urine contains a dark and mortified matter; the purple spots extend; the face becomes gaunt; the breath very offensive; the pulse becomes tremulous; blood often passes by the stools, mouth, or nose: the hands and feet become earthy cold; hiccough succeeds, and the scene closes in the death of the patient.

But when a favourable turn is given to the disease, improvement takes place about the third week, when there is considerable abatement of fever; perspiration bedews the whole body and the pulse feels firmer, fuller and slower; the bowels act abundantly; urine is very loaded, and the delirium, moaning and excessive heaviness abate.

From the tenth to the fifteenth day is by far the most important period of typhus; and, if the bowels be neglected, there is little hope of a favourable termination to the fever.

Appearances after Death.

These must be regarded as of vital importance, for surely they indicate what part of the body suffers most from the attack. The feelings of the patient afford NO INFORMATION in typhus which will not mislead an ignorant man.

The complaint appears to be in the head, but examinations after death clearly indicate that the mischief is principally in the SMALL INTESTINES, which are often found covered with patches of mortification and ulcerated in various places: the large intestines

and stomach suffer, but rarely, to any thing like the same extent; and the BRAIN, to which in thirteen cases out of fourteen, the most of the remedies have been applied is, in the *majority of cases*, perfectly healthy; it is no doubt true, that a fulness of vessels is *sometimes* detected in the brain, but rarely do the appearances in the brain amount to the extent of disorder which one would have thought so violent an affection of the bowels would have excited.

TREATMENT.—It would seem that many cases of typhus will terminate favourably in spite of the doctor. What other conclusion can we arrive at when we see the discordant treatment adopted by various folk for typhus. One set always bleeds, shaves the head, leeches, and yet says his patients do well—another set never bleeds, but stimulates throughout, and says his are the only patients which do well in typhus. It certainly must be admitted, that not a few of the most eminent of this latter class have themselves died of typhus, treated by their own request, at the beginning, according to their favorite system.

In hot climates, but one treatment is admissable, and that is a rapid, plentiful and abundant detraction of blood from one, or two veins in each arm; a dose of calomel of twenty grains, and of opium one grain, administered in a powder, by the mouth and repeated in two hours.

In four hours give a scruple (twenty grains) of powdered jalap and five of calomel and, if the bowels be not copiously relieved in a couple of hours, or thereabout, a clyster must be thrown up the fundament, composed of two pints of warm water in which

a handful of salt has been dissolved and two ounces of castor oil added.

Subsequently, the patient must take four grains of calomel and ten of compound extract of colocynth, every three hours, till his bowels are healthy coloured and his gums sore.

DIET.—Rice-water, or barley-water into which a little lime-juice has been thrown, and *nothing* else, till the stools are properly coloured. Then give a little animal food, bread and butter, and tea.

If, after the second day, delirium and muttering continue, put forty leeches (if they can be obtained) on the belly, cut off the hair; dress lightly; sprinkle the room with cold lotion, and, next day, put a blister over the whole belly. Continue the treatment above directed.

But in cold climates the disease is modified, and so must the treatment be. Inflammation tending to gangrene has attacked the bowels, the prostration is consequent upon this inflammation, and, therefore, must not blind your eyes to the cause of the evil.

Raise the man in bed, open, by a *large opening*, a vein in the arm, the man will soon feel faint; bind it up and give by the mouth, six grains of calomel and half a grain of opium; in two hours more give a similar dose: cut close the hair, cover lightly the bed, sprinkle the room with vinegar and water, and apply vinegar and water to the head.

After four hours give a scruple (twenty grains) of jalap and one grain of calomel by the mouth, and, in two hours more, inject, by the fundament, two pints of warm water in which a handful of salt has been

dissolved, and to which an ounce of castor oil has been added. By these means a plentiful discharge of filthy, black, fetid matter will be brought away, and the patient will be in the most favourable state for a speedy recovery. Many attacks will be arrested and others be rendered far more manageable.

For fifteen days give half a grain of calomel and five of compound extract of colocynth every four hours. If much delirium continues, apply twenty, or thirty leeches to the belly and cover it, on the succeeding day, by a large blister.

One grain of James's powder, at night, is serviceable, and forty drops of the tincture of camphor, in water, every four or five hours, may be of use after the twelfth day.

The DIET, till the bowels have been plentifully relieved and of a natural colour, till delirium has subsided and perspiration covered the body, must consist of thin barley-water acidulated with a little, *very little* lemon-juice.

Afterwards, a little bread in mutton broth perfectly deprived of grease, may be given, and, when the fourth week hath arrived and all symptoms favourable, a little meat may be tried, if much desired, but not unless the bowels are freely and healthily relieved.

After the fifth week, meat and a little wine may be allowed, but great attention must be throughout paid to the bowels.

Sec. 28.—Scarlatina

Commences with a sense of weariness, a languor, a feeling of stupid listlessness and chilly fits (rigors) succeeded by heats. The mouth feels hot, the thirst is great, the skin is parched, eye heavy but anxious. There is nausea and, generally some vomiting. To these symptoms, quickly, are added stiffness of the back of the neck, soreness of the throat and pain in the attempt to swallow. The soft palate, pin of the throat (uvula) and tonsils are found to be red, swollen, and, frequently, covered with grey specks, or slight, ulcerated points.

About the third or fourth day the skin is covered with an efflorescence, and resembles the shell of a boiled lobster, this continues about four days; perspiration comes on and the fever subsides; the cuticle (scarf-skin) scales off, and the patient is left weak, but in a fair way of recovery.

Should the body, at the disappearance of the red eruption be suddenly swollen all over with a dropsical effusion under the skin, it need not excite alarm, unless accompanied with some serious disease.

But should the fever increase with the appearance of the eruption, the pulse become frequent, the efflorescence studded with *livid spots*, and delirium succeed; a purging, or bleeding may be expected to cut off the patient before the tenth day.

There is always ground for apprehension, when the fever has been severe, of fatal consequences about the time the cuticle begins to peel off.

Scarlatina may degenerate into putrid 'typhus,' and then, most frequently proves fatal.

In its mildest form it may be confounded with measles; a distinction will be found in the absence of the characteristic running from the nose, sneezing, watering of the eye, and short troublesome cough.

Treatment.—It is desirable to give a warm bath and to put the patient to bed; the room must be very carefully ventilated; heat, or draught must be avoided. From ten to thirty drops of antimonial wine should be given, in water, every four hours during the day: in the evening, two grains of calomel, with one of James's powder, will be the most prudent medicine, to be succeeded in the morning by a black draught, warmed.

This treatment must be persevered in till the eruption has ceased, when it is judicious to give an ounce and half of the decoction of sarsaparilla three times a day and a compound colocynth pill every night and morning, for a week.

Diet, till the eruption has ceased, should consist entirely of barley-water, tea and gruel; afterwards, a little fresh animal food may be taken once a day.

Scarlet Fever is, in truth, nothing but the English of the Italian word 'Scarlattino,' which signifies scarlet cloth and from which the word Scarlatina has been derived; but yet scarlet fever has been taken to denote a severer form of disease than scarlatina, which is erroneously supposed to express a diminutive. When the sore throat ulcerates and the fever runs high, the efflorescence bright and the mouth, tongue, and throat very red and inflamed,

the disease is termed SCARLET FEVER, and the distinction is useful, because it denotes the necessity of applying some remedies to these painful symptoms.

The TREATMENT should be, in all respects, as that detailed above, with this addition only: when the throat is most inflamed the patient should breathe over hot water for twenty minutes, which will afford great relief; this may be repeated three, or four times in the twenty-four hours. When the ulcers extend and the eruption declines, the throat may be gargled with infusion of roses and diluted sulphuric acid (a pint of the infusion to two drachms of the acid), or port wine and cold water (which is not equal to the former). When the patient is recovering, it will be as well to give two grains of sulphate of quinine two, or three times a day.

SEC. 29.—SMALL POX,

When arising naturally, is preceded by soreness of the throat; pain of the head, back of the legs and loins: there is also redness of the eyes, chilly fits and heats, thirst, vomiting, quick pulse, and, sometimes, faintings and convulsions.

About the third day an eruption of red spots appears on the neck, breast, or face, dispersing gradually over the whole body: they increase in size, and, about the sixth day become limpid at the apices, forming heads containing watery fluid, which, about the eighth day, turns thick and yellow, and, about the twelfth day, the swelling of the face subsides, some of the pustules break, the matter dries, forms

crusts, which falling off leave the skin a brown red colour; for several days this discoloration continues and when it disappears a pit is not unfrequently left.

Sometimes, the pustules run together, leaving the body one mass of disease, and then the pits run in seams along the surface of the body.

In some variable climates small pox is dreadfully destructive and takes off whole tribes in a few months. The prevention by the insertion under the scarf-skin of a little vaccine matter is too well known to need remark.

TREATMENT.—A good black draught taken at once, and from ten to thirty drops of antimonial wine with twenty of tincture of henbane every four hours, in water, is, as well the most effectual, as the most soothing remedy which has been, yet, discovered.

DIET.—Barley-water, tea, and gruel.

Occasional doses of castor oil should be given, and gauze, stretched on large half hoops should be put over the face to protect it from flies.

N. B. If you are aware of the attack before the pustules affect the eyelids, cause the patient to close the lids and wash them with a little strong solution of nitrate of silver (lunar caustic) three grains to an ounce of water, which should be applied with a camel's hair pencil. This simple remedy seldom fails to protect the eyes entirely from pustules, thus preventing temporary blindness.

SEC. 30.—MEASLES.

This disease, though most common in childhood,

attacks also adults. The first symptoms are feverishness, a general lassitude, soreness of the glands outside the throat, nausea and, occasionally, vomiting. There is a characteristic heaviness in the eyes, which are suffused and the lids swollen: the nostrils produce an acrid, thin discharge, accompanied with sneezing, and the light is often very offensive. The feverishness increases, a short, dry, harrassing cough succeeds, and pain is felt in the chest, loins, and bowels; the tongue is white at its tip and edges, foul at the back; the thirst is considerable and the head-ache oppressive. About the third day, commonly, an eruption appears, which feels to the hand like slightly elevated spots on a surface which is covered with cambric: as if the eruption were rather under, than on the skin.

The measle-spot is red, rounded, and but rarely becoming pustular (containing matter).

By the tenth day the skin ought to be quite restored to healthy appearance, but in adults as well as in children this period must be deemed important, for the cough and fever are apt to increase, the glands to swell, and the belly to be distended; and some cases, now, terminate fatally from severe inflammation of the throat, lungs, bowels, or liver: dropsy is seen as a consequence of badly cured measles.

When the fever has run high, dark-brown spots, varying in size from a pin's head to a sixpence, will appear interspersed about the eruption. This symptom is commonly fatal and, not unfrequently, accompanies ulceration of the intestines: the pulse becomes

quick, irregular and very feeble, and death closes the scene before the twelfth day.

TREATMENT.—Strict confinement to the room must be insisted on till the fifteenth day, and to the bed till the eleventh. The ventilation must be carefully conducted, for a cold draught blowing upon the patient is *certainly* injurious.

The temperature must not be too high (about 70° Fahrenheit), or the fever, head-ache, and restlessness will increase.

The first stage requires that the bowels of the patient should be relieved with castor oil, or a black draught, this having been effected, give ten drops of antimonial wine and ten of tincture of henbane, every three or four hours, in water.

DIET.—Tea, gruel and barley-water only till the eruption has ceased, when a little fresh animal diet may be allowed once in the day. Acids are objectionable, as they are apt to occasion a looseness of the bowels, which proves very troublesome.

OBSERVATIONS.—If the cough be severe, take half an ounce of sweet spirit of nitre, half an ounce of tincture of henbane and an ounce of syrup of squills, mix them, and give a teaspoonful three times a day, in a cup of warm linseed tea.

Confine the patient to his room.

If, after the eruption has ceased, you have reason to fear inflammation has attacked the chest, or bowels, bleed the patient and apply a blister. Five grains of calomel and one of James's powder may be given, night and morning, for two, or three days.

If the bowels remain very loose, five grains of 'mercury with chalk' must be given, night and morning with one of James's powder, and a blister applied to the belly.

Milk diet will be most *suitable*.

Sec. 31.—Worms.

Three species are common.

First, The thread, or maw-worm; half an inch long, terminating at its tail in a fine point.

Second, The lumbricoid worm, or long, round worm; when full-grown a foot in length, with a triangular mouth.

Third, Tape-worm; body flat and jointed, or body round, jointed, having a mouth at each joint.

The signs of worms are fetid breath, grinding of the teeth during sleep, picking the nose, paleness of the face, acid eructations, swelling of a portion of the belly, which is at that place hard and tender; slimy stools, griping, variable appetite, great irritability about the fundament and bladder; short, dry cough, irregular pulse, emaciation; slow fever, which increases towards night and occasional convulsive fits during sleep.

The Treatment *of the maw-worm*, which often proves successful, is two grains of calomel and twenty of powdered jalap at bed time and a black draught the next morning. Let this plan be adopted every other night and morning for ten, or twelve days.

Diet mixed; fresh animal food once a day. All uncooked food, raw and green vegetables and spirits

prohibited strictly. Salt should be taken with every meal.

OBSERVATIONS.—(*a*) Twelve drops of the muriated tincture of iron has been given, with great effect, three times a day, in a little water, as an addition to the treatment above prescribed.

(*b*) From six to eight grains of basilic powder in infusion of cascarilla has been known very useful; such a dose to be given every four hours.

The TREATMENT *for the second, or lumbricoid worm* consists in giving half an ounce of the oil of turpentine and half an ounce of castor oil, every other morning, for a week, and the powder above prescribed on the alternate evenings.

The TREATMENT *for tape worm* is an *ounce* of castor oil with an *ounce* of oil of turpentine twice, or three times a week, for a month.

SEC. 32.—TETTER, HERPES, OR SCABS

About the head, neck, or various parts of the body. The *treatment* is a Plummer's pill every night for a fortnight, and fresh animal *diet*.

END OF PART THE THIRD.

APPENDIX.

Chap. 1.—Suspended Animation, whether from partial Drowning; Sleeping in Snow; Protracted Fainting from Great Pain; Loss of Blood and the like; or from the Fumes of Charcoal, or other noxious Vapour.

THERE can be no doubt but that the *sudden elevation* of the temperature of the body, during a suspension of its animation, destroys the only hope of life which the case presented.

It should never be forgotten, that the lower the temperature, the longer a suspension of the breathing may be without fatal consequences.

Very many cases occur where unequivocal symptoms of animation display themselves, but which are checked by the injudicious means employed suddenly to elevate the temperature of the body. Very oft, the beach is far more favourable for the restoration of the shipwrecked seaman than the blankets of the misinformed humane.

In all cases of suspended animation the temperature of the body ought to be *very slowly* raised.

It will be prudent to receive the patient, on a board

lightly covered with a sheet, into a room WITHOUT *a fire*: the windows are to be thrown open; the wet clothes removed, the hair wiped lightly and brushed off the neck and forehead. The body may then be sponged with cold water and vinegar, and very lightly wiped dry: until the action of the heart be heard distinctly (by putting the ear to the left side of the chest) increasing in energy, the patient may be left so exposed without further treatment.

When the action of the heart increases and the pulse can be felt at the wrist, a little 'sal volatile' (thirty or forty drops) in a wineglass of cold water, may be given once, or twice, but spirits are not necessary and increase the after fever: the temperature may be now improved but not raised to a great height, and the addition of a blanket may answer all the purpose of encouraging perspiration and procuring a refreshing sleep.

N. B. Many cases which have been treated hastily and unsuccessfully by inhospitable strangers, and where the body has afterwards been exposed for many hours to the shore, or laid in a wet, cold outhouse, have been known to recover and succeed far better than those treated according to the most admired rules of art.

CHAP. 2.—BLEEDING.

Bleeding is an operation requiring attention to perform correctly and beneficially. It has been illustrated carefully by the diagrams, and may be explained in reference to them.

THE LANCET ILLUSTRATION.

A, B, the semi-circle described by the *blade* of the lancet; D, C, the semi-circle described by the *point* of the lancet; E, the edge of the thumb to be lowered to the arm; F, the fore-finger; G, K, the handle of the lancet.

A ROUGH SKETCH OF A LEFT ARM BOUND UP PREVIOUS TO BLEEDING.

The veins coloured blue, the artery red.

Fig A

3, Bandage; 4, Vein to be selected for opening.

ILLUSTRATION OF THE VEIN AND LANCET-POINT.

First, tie a broad piece of tape, bandage, or strong ribbon above the elbow, see Fig. A, 3. This bandage should be sufficiently tight to swell the veins of the arm, but not so tight as to stop the *pulse* at the wrist, which you ought to feel before you proceed further.

Sometimes several veins swell in the bend of the arm and it will be your duty to select one; if you have choice do *not* select one where it passes over the artery, which is coloured red in the diagrams and may be felt pulsating, if you press gently with your finger on the inside of the bend of the arm.

You will generally find a vein crossing from the outer vein of the arm to the middle, marked 4, this will answer well; grasp the arm with your left hand, and press, with the thumb of the same, the vein selected, about a couple of inches from the point at which you intend to cut it; unless you, thus, steady the vein and keep close the skin, the vein may be pierced in one place and the skin in another, or the vein may roll from the lancet.

Hold your lancet by the blade, between your finger and thumb, as shewn in the 'lancet illustration;' run the blade through the skin into the swollen vein to D, then lower your wrist, so that H describes the semi-circle A, B, and the point of the lancet cuts its way out from D to C.

By this means a free opening will be obtained, from which blood will flow freely.

If this cut be performed imperfectly and a *little* stream only appear, extend the incision. If the blood does not flow freely, it may be, your bandage is too

tight, then the pulse at the wrist will be stopped, ascertain that, and if so, loosen the bandage; but the bandage may be too loose and suffer the blood to flow on to the heart, in that case, tighten it.

The object is to make a clean cut which shall be of the same dimensions in the vein as the external opening.

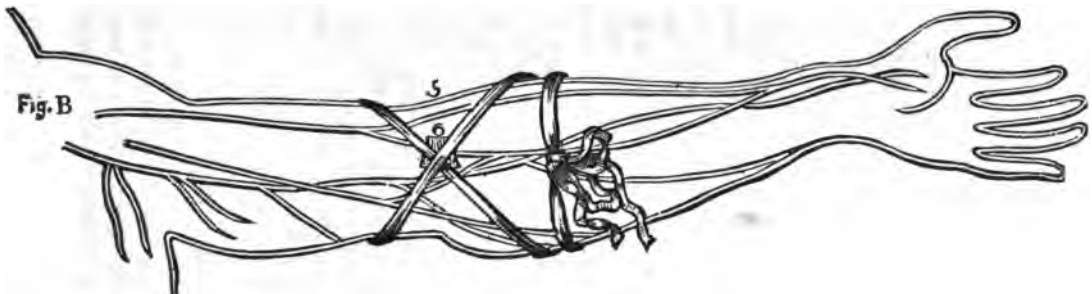
In the smaller illustration of the vein and lancet-point a very large opening is represented in the vein and skin, one adapted to cases of urgent need, as in TROPICAL FEVERS, ACUTE INFLAMMATIONS and the like.

N. B. The veins of a cabbage-leaf may be practised on with advantage by those who desire to bleed correctly.

When sufficient blood has been taken away, untie the bandage and, ofttimes, the bleeding will cease of its own accord; if it does not and you desire no more blood to flow, put your thumb upon the opening; then fold a piece of lint five or six times and, having wiped the arm with a dry cloth, put it on the opening as shown in Fig. B, 6. Pass your broad tape, ribbon, or bandage behind the upper arm, cross the right hand end over the front of the arm, pressing the dossil of lint, 6, and afterwards cross the left hand end over the dossil. The ends must then pass behind the fore arm, cross each other there, and be tied in the front of the fore arm.

ROUGH SKETCH OF AN ARM BOUND UP AFTER BLEEDING.

Fig. B



5, The direction of the bend of the arm.
6, The dossil of lint put over the opening and crossed by the two ends of the bandage.

POISONS.

Chap. 3.—Poisons; their Tests and Antidotes.

ARSENIC.

The common form in which arsenic is found is combined with the metal called 'cobalt' (an ingredient in meteoric iron) this compound of arsenic and cobalt is termed 'arseniuret of cobalt.'

The arsenic is obtained from this compound metal, by heating it, in a reverberatory furnace, the arsenic being volatile, flies off and condenses in cakes on the roof of the chimney. These cakes of arsenic, which are impure, may be again heated and will then again fly off and lodge on the roof of the chimney of the furnace in white crusts; this white substance is known by the names of '*white oxide of arsenic*,' '*arsenic*,' or '*arsenious acid*.'

It is to be observed, that when first sublimed, the 'arsenic' is in brittle masses, colourless, transparent, and of a vitreous lustre; it looks like glass and may be preserved with this appearance if kept perfectly dry: it is, by its being exposed to an atmosphere which is moist, that its character is altered to a *white*, opaque powder.

Although arsenic is an acid, and will combine with an alkali, forming a salt, the taste of arsenic is not acrid, but conveys to the tongue a faint impression of sweetness and *very slightly* acid.

If a little 'powder of arsenic' be placed on *blue*

litmus paper which has been moistened, it will *redden* it in a short time.

Boiling water will dissolve more than twice the quantity of arsenic that cold water will, and more than this if seventy-seven grains of arsenic be dissolved in two fluid-ounces of boiling water; put the solution by to cool and more than half the arsenic will have fallen, in white powder, to the bottom of the glass by the time the water has become cold. (60° Fahrenheit).

By the addition of milk, or tea the water will be capable of dissolving considerably less.

It is of importance to detect by simple tests the presence of arsenic in any powder, or fluid; and there is *nothing in chemistry so easy* to effect—nothing can be more *satisfactory* and conclusive when effected.

Tests of Arsenic.

Suppose a *powder* be given you which is the subject of suspicion; boil a portion of it in a small quantity of distilled water: double blotting paper so as to make a filter; put the filter into a funnel, and passing the boiling solution through the filter, pour it into three test tubes, or glasses, 1, 2, 3.

Now for the first TEST. Take a strong solution of nitrate of silver (lunar caustic) drop into it the liquor ammoniæ, (or solution of ammonia) at first, a little sediment will fall to the bottom, continue adding the solution of ammonia, till, by shaking the fluid a little, very nearly all the sediment has been re-dissolved. This liquid is called '*ammoniacal nitrate of silver.*'

Add to the *suspected* liquid contained in '*No.* 1,' a portion of this *ammoniacal nitrate of silver*, and if the suspected liquid in No. 1 contains any arsenic, an insoluble *yellow* powder will form before your eyes, and be precipitated to the bottom of the glass, the name of this yellow powder is 'arsenite of silver.'

If no arsenic be present, nothing but a white cloudiness is occasioned.

For the second test. Dissolve half a drachm of sulphate of copper in half an ounce of water, add to this solution the liquor ammoniæ (the solution of ammonia) until the cloud and powder first thrown down is *nearly* all dissolved again, which it will soon be by adding the ammonia and shaking the mixture a little. This liquid is called now '*ammoniacal sulphate of copper.*'

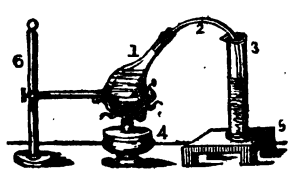
Add to the suspected liquid in No. 2, a portion of this ammoniacal sulphate of copper, and if any arsenic be contained in the glass No. 2, a GREEN cloud will form and be precipitated to the bottom of the glass, in a fine powder. The name of this *green powder* is '*arsenite of copper.*' If *no* arsenic be present only a *sky-blue* cloud will be formed.

The third test is a very important and useful, though a very disagreeable one. Put into a flask a small portion of sulphuret of antimony, add to this about four times its weight of strong muriatic acid; put a cork into the mouth of the flask which has a small bent tube fixed into it and passing through the cork, then put one end of the tube into the suspected solution in No. 3. and apply a little heat to the bot-

tom of the flask by the flame of a candle, or a little spirit lamp: sulphuretted hydrogen will be formed in the flask, pass through the tube into the suspected water, and a part will escape which will smell like rotten eggs.

If any *arsenic* be contained in the suspected fluid, as soon as the sulphuretted hydrogen comes in contact, a yellow colour will instantly appear, which will soon become cloudy, forming a substance termed 'orpiment,' or 'yellow sulphuret of arsenic.'

N. B. It is of importance to add to the suspected fluid in No. 3. a little muriatic acid, or vinegar, previous to the use of the sulphuretted hydrogen: otherwise this excellent test will fail.



This figure illustrates the operation of testing a solution of arsenic by sulphuretted hydrogen. 1 is the flask, containing the sulphuret of antimony and muriatic acid; 2 is the pipe introduced through the cork into the flask by which the sulphuretted hydrogen passes; 3 is the test tube, or glass containing the suspected liquid; 4 is a lamp, or candle to heat the flask; 5 is any stand for the test-tube, or glass; 6 a stand for the flask No. 1.

The three tests above given are conclusive when taken conjointly. But, if a *solution* be given you, you have only to boil it and then filter it and put it into three glasses, or tubes, and conduct the process testing as above described.

Antidotes for Arsenic.

When a person has swallowed arsenic, dissolve two drachms of sulphate of zinc* (white vitriol) in a pint of water and give half instantly, the other half in a quarter of an hour; encourage vomiting by giving warm water. Linseed tea, gruel, barley-water, or the like, must be given in an hour and an ounce of olive oil, or of castor oil: if the pulse sinks rapidly, carbonate of ammonia, or spirit of ammonia (sal volatile) or solution of ammonia, in water, may be given every quarter of an hour in large doses, twenty grains of the carbonate, two drachms of the spirit, and the same quantity of the solution. As soon as the pulse is restored at the wrist, twenty grains of camphor and two grains of opium may be given, and should the patient survive for twenty-four hours, it is probable that inflammation of the bowels will come on, which must be treated according to the directions in page 233.

Should the patient survive this, great attention to diet, mild food, milk, arrow root, tapioca and a moderate quantity of fresh animal food once a day, or once in two days may help to restore him to health, but recoveries are very rare after poisoning from arsenic.

* If sulphate of zinc be not at hand, two ounces of antimonial wine may be used instead, with a tablespoonful of sulphur.

Chap. 4.—Corrosive Sublimate.

Known by the names of '*oxymuriate of mercury*,' '*per-chloride of mercury*,' 'and '*bi-chloride of mercury*,' is a virulent poison; it is a chrystalline, semitransparent, colourless substance; conveying to the taste an acrid, burning sensation, and leaving behind a metallic and sickening flavour.

Like arsenic it is far more soluble in boiling than in warm water; thus, if one ounce of corrosive sublimate be dissolved in two ounces of boiling water, about nine-tenths of the poison would crystallize about the glass by the time the water was cold (60° Fahrenheit).

Test.—When a substance, bearing the character above described, is brought before you, you may test it by dissolving a small portion in heated water, then dropping the liquid on a piece of polished gold, touch the surface of the gold so wetted with the point of a penknife; if mercury be present in the liquid, the part touched instantly turns white, owing to the formation of an amalgam of gold.

Antidotes for Corrosive Sublimate.

When corrosive sublimate has been swallowed, give the uncooked whites of eggs* with cold water:

* If whites of eggs are not to be procured, starch beaten in hot, or even cold water will answer, or almonds beaten up in milk, or water.

the white of eggs rapidly changes this poison to an inert and harmless compound.

Subsequently, an ounce of castor oil may be given and a clyster of soapy water and olive oil in three, or four hours may be injected up the fundament.

CHAP. 5.—OXALIC ACID,

Known by the names of '*salt of sorrel*,' '*salt of lemons*,' and '*acid of sugar*,' is one of the most powerful, and rapidly fatal poisons which chemists possess. It is sometimes taken by misapprehension for common Epsom salts, but may be easily distinguished by the appearance of the crystals, taste and other tests.

First, The crystals of *oxalic acid* are slender, flattened, have four, or six sides, and terminated by *two-sided* summits—the crystals are transparent and undergo *no change* in the ordinary states of the atmosphere.

The crystals of *Epsom salts* are, commonly, small, quadrangular prisms, and, when obtained in larger crystals, are six-sided prisms, terminated by *six-sided* summits; they *effloresce* in the ordinary state of the atmosphere, which impairs their transparency.

Secondly, The *taste of oxalic acid* (it may be tasted without any danger) is very tart, or strongly acid.

The *taste of Epsom salts* is saline, bitter and nauseous.

Thirdly, If a little oxalic acid be dissolved in a

little water, the solution will *redden* blue vegetable matter, blue litmus paper, and the like.

A solution of Epsom salts will be found quite neutral.

Fourthly, If a little solution of oxalic acid be added to a little carbonate of magnesia mixed in water, effervescence will take place.

If a solution of Epsom salts be added to a little carbonate of magnesia, no such effect will be produced.

Fifthly, If a little clear solution of oxalic acid be added to a little clear lime-water, immediately a thick white cloud is formed, which is precipitated in the form of a white powder called '*oxalate of lime*.'

Antidote for Oxalic Acid.

Chalk mixed with water should be administered to the person who has swallowed oxalic acid;* by which means the virulent poison is converted into an inert and harmless compound.

Afterwards, give thirty grains of simple ipecacuanha powder with warm water, and, when vomiting has ceased, an ounce of castor oil.

If symptoms of inflammation of the bowels come on, treat as directed in page 233.

CHAP. 6.—IF ANY ONE BE POISONED BY LAUDANUM

The smell will be sufficient for detection. The

* Magnesia will answer if chalk be not at hand.

antidote is a dessertspoonful of domestic mustard in a cup of water administered immediately; and, after sickness has subsided, keeping the patient roused by talking and exercise.

Sal volatile in water, half a drachm every hour or so, will be of service.

If oil of vitriol, aqua fortis, or any strong vegetable acid has been swallowed,

The *antidote* is pearl-ash, chalk, magnesia, or soap suds with plenty of warm water. In ten minutes give a tablespoonful of antimonial wine, or thirty grains of simple ipecacuanha powder.

Inflammation of the stomach and bowels may certainly come on if the patient survive, and must be treated according to the directions given in page 233.

Chap. 7.—White Lead and Sugar of Lead.

White lead known in chemistry as the '*white carbonate of lead*,' is the most violent poison of all the forms of lead. It appears to be owing to the ease with which '*sugar of lead*' (acetate of lead) is converted into *white lead* in the stomach, that its poisonous quality is, almost wholly, attributable.

Test.—If you have reason to suspect *lead* to be in any fluid (wine, rum, porter, etc.) pass through the fluid sulphuretted hydrogen, as directed for the test of arsenic, page 273.

If *lead be present*, a dark '*sulphuret of lead*,' commonly known by mineralogists as '*galena*' will be precipitated. This precipitate is to be collected

on a filter; then washed by pouring on cold water; then the precipitate is to be put into a glass and, to it, is to be added a little nitric acid (aqua fortis) diluted with twice its quantity of water. This new solution (called *solution of nitrate of lead*) is then to be evaporated and, what is left dry in the bottom of the vessel, is to be re-dissolved in a little clear, cold water. A pretty pure solution of nitrate of lead will be thus obtained, into which a small portion of *hydriodate of potash* is to be dropped, when a *yellow cloud* will be formed, consisting of '*iodide of lead*!

Antidotes for white Lead and Sugar of Lead.

When a person has swallowed a large dose of white lead, or sugar of lead; Epsom salts, or Glauber's salts, or common salt, will convert it into an inert compound: but the mischief to the system is too often completed before the antidote can be given.

Dry belly-ache will be most likely to supervene, and for the treatment see page 231. The ultimate recovery is not to be expected generally.

CHAP. 8.—OPENING MEDICINES.

(*a*)

TO MAKE SENNA TEA.

Take of

Senna Leaves	3 ounces,
Ginger Root sliced . .	2 drachms,
Cloves	2 drachms,
Boiling Water . . .	2 pints.

Pour the boiling water over the other ingredients, and keep the vessel closely covered for two hours: then pour off the fluid into a bottle, cork it, and it will be fit for use forthwith, or will keep four or five days.

(*b*)

TO MAKE BLACK DRAUGHT.

Take of

Epsom Salts	1 ounce,
Tincture of Senna. . . .	½ an ounce,
Tincture of Ginger . . .	1 drachm,
Senna Tea	3 ounces.

Dissolve the Epsom Salts well in the Senna Tea, and give the draught when required.

OPENING POWDERS.

No. 1.

Take of

Powder of Scammony . .	5 grains,
Powder of Jalap . .	6 grains.
Calomel . . .	from 2 to 5 grains.

Mix the powders together and give it all in treacle, jelly, arrow root, or thick gruel.

N. B. If a powder be required without calomel, the above may be administered with that omitted.

No. 2.

Take of

Powdered Jalap . . .	15 grains,
Cream of Tartar . . .	5 grains,
Calomel	2 grains,

Mix the powders together and give it as above directed.

No. 3.

Take of

Powdered Jalap . . .	10 grains,*
Powder of Scammony .	5 grains,
Powder of Senna Leaves .	5 grains,
Powdered Rhubarb . .	3 grains,
Cream of Tartar	6 grains,
Calomel	2 grains,

Mix these powders together and give it all as above directed.

OPENING PILLS.

No. 1.

Take of

Compound Ext. of Colocynth	10 grains,
Blue Pill	5 grains,

Mix them and, if required, soften the mass with a

* A very powerful opening powder.

drop, or two of oil, honey, or gum water, divide into three pills, two of which may be taken at bed time, and the third on the following night.

No. 2.

Take of

Compound Ext. of Colocynth	10 grains,*
Calomel	5 grains,
Oil of Cloves . . .	2 drops.

Mix them and divide the mass into three pills, which may be taken at bed time, to be succeeded by a black draught in the morning.

No. 3.

Take of

Powdered Scammony . .	5 grains,†
Cream of Tartar . .	5 grains,
Powder of Jalap . . .	3 grains,
Powdered Rhubarb . .	5 grains,
Compound Ext. of Colocynth	7 grains,
Essence of Peppermint, or Oil of Cloves . . .	5 drops.

Mix the powders well together, then add the extract of colocynth and oil of cloves, or essence of peppermint and divide the mass into five pills, one, or two may be taken every night.

* Powerful opening pills.
† A very mild opening medicine.

Chap. 9.—Tonic Infusions.

No. 1.

INFUSION OF CASCARILLA.

Take of

Cascarilla Bark, bruised . .	1 ounce,
Boiling Water . . .	1 pint.

Pour the boiling water over the bark, keep the vessel closely covered for two hours and then pour the fluid through a cloth to strain it.

No. 2.

INFUSION OF GENTIAN.

Take of

Gentian Root, sliced . .	2 drachms,
Dried Orange Peel . .	2 drachms,
Fresh Lemon Peel . .	2 drachms,

Pour over them of boiling water one pint.

Keep the vessel covered for an hour and pour off the fluid, which may be used forthwith, or, if well corked, will last, at least, a week.

No. 3.

INFUSION OF BUCHU LEAVES.

Take of

Buchu leaves . . .	1½ ounce,*
Gum Arabic . . .	½ an ounce,
Pour over of boiling water .	one pint.

Keep the vessel closely covered for two hours, then

* This is useful in diseases of the kidneys and has been ordered in page 240.

pour off the fluid and bottle it. It may now be used, or will keep, if well corked, at least, a week.

Chapter 10.

(*a*)

TO MAKE ANTIMONIAL WINE.*

Take of

Tartarised Antimony . .	1 scruple,
Boiling Distilled Water .	8 fluid ounces,
Rectified Spirit† . . .	2 fluid ounces,

Dissolve the tartarised antimony‡ in the boiling water, then having filtered§ the liquor, add the spirit.

Doses.—*To create perspiration*, from ten to fifteen drops in water, every three or four hours.

To act as a vomit.—From one to two tablespoonsful in warm water.

* This is one of the most useful remedies, in inflammations, fevers, and the like, which is known in medicine.

† (*a*) Rectified spirit is pure spirit of wine: if, however, it cannot be obtained, the best substitute is a glass of brandy. Or it may be made without spirit, if not required to last above a week: two ounces of distilled water may be added, in that case, and filtering will not be necessary.

(*b*) The only use of the spirit is to keep the solution of tartarised antimony from becoming putrid through age.

‡ If the tartarised antimony be not first dissolved in the water before the spirit is added, the greatest difficulty will be found in obtaining a perfect solution of the antimony.

§ A filter is easily made by doubling a sheet of clean blotting paper into four, then putting the closed end into the bottom of the funnel, and opening one of the corners of the open end into which the fluid is to be poured.

(*b*)

TO MAKE TINCTURE OF RHUBARB.

Take of

Rhubarb Root, sliced small . 2 ounces,
Brandy . . . . 2 pints.

Shake the rhubarb root and brandy together well in a bottle closely corked: put it by, fourteen days, and it will be fit to use. If filtered before used it is better, as well as more sightly.

(*c*)

TO MAKE TINCTURE OF HENBANE.

Take of

Extract of Henbane . . 80 grains,
Brandy . . . . 2 ounces.

Rub the extract with the brandy in a mortar till all be dissolved; it will then be fit for use.

(*d*)

TO MAKE TINCTURE OF HOPS.

Take of

Hops . . . . 5 ounces,
Proof Spirit,* or Brandy . 2 pints.

Shake well in a bottle closely corked, and put by for fourteen days: then pour off the fluid and it will be fit for use.

* Proof spirit is made by adding together equal parts of pure spirit of wine and distilled water. This tincture is used in gout of the eye, page 237.

CHAPTER 11.

(*a*)

TO MAKE EAU DE LUCE.*

Take of

Mastich	3 drachms,
Rectified, or pure Spirit of Wine	9 drachms,
Oil of Lavender . .	14 drops,
Solution of Ammonia (hartshorn)	1 ounce,
Spirit of Ammonia (sal volatile)	10 ounces,

Mix and shake them well together in a bottle.

(*b*)

TO MAKE SOLUTION OF ARSENIC†.

Take of

White Arsenic in very fine powder	64 grains,
Subcarbonate of potash .	64 grains,
Brandy	4 drachms,
Distilled Water . . .	1 pint.

Boil the arsenic with the distilled water in a glass vessel (over a spirit lamp, or oil lamp) until all the arsenic be dissolved: set by the solution and when it is cold, add the brandy and so much distilled water as will make up an exact pint.

* This remedy is ordered to be used as a lotion for stings of insects, in page 59; and again in page 63, for the bites of the puff-adder and cobra di capello; again in pages 64, 65 and 66.

† It is requisite to be very careful in attending to the directions given in making the solution of arsenic. The brandy is added chiefly to colour the fluid to prevent accident the distilled water, which is afterwards added, is to

(*c*)

TO MAKE THE WINE, OR TINCTURE OF THE SEEDS OF COLCHICUM, (MEADOW SAFFRON.)*

Take of

Meadow Saffron Seeds . .	2 ounces,
Brandy, or Proof Spirit of Wine	1 pint.

Shake them well together in a bottle closely corked and put by for fourteen days, when it will be fit for use.

(*d*)

TO MAKE LAUDANUM (TINCTURE OF OPIUM.)

Take of

Opium in Powder . .	2½ ounces,
Proof Spirit, or Brandy .	2 pints.

make up for the water which escaped in vapour during the boiling of the fluid.

Always keep "POISON" on the bottle containing the solution of arsenic.

It is a very useful remedy in many disorders; it is directed to be given under the title of Fowler's solution of arsenic in page 67, for bites of serpents; again in page 74 for a putrid wound; again in 81, for leprosy; again in page 247.

As a local application, it is directed to be used in hospital gangrene in page 43; again it is used in page 106, internally, for a certain ulcer of the nose. By some it is strongly recommended in ague, six drops in water, three times a day.

When sickness comes on, or much headach during the use of the solution of arsenic, it should be discontinued for a few days.

* This is directed to be used in chronic rheumatism page 236; in gouty inflammation of the kidney, page 239; in gout, page 244; in lumbago, page 245, etc.

Shake them well together in a bottle closely corked and put by for fourteen days, then pass the fluid through a filter,* and it will be fit for use.

(*e*)

TO MAKE TINCTURE OF SENNA.

Take of

Senna Leaves . . .	3 ounces,
Cloves	½ an ounce,
Ginger (bruised) . . .	½ an ounce,
Liquorice Juice (cut small)	½ an ounce,
Proof Spirit, or brandy .	1½ pint.

Shake the ingredients well in the spirit, or brandy, then put by for fourteen days and strain it through a common strainer and it will be fit for use, or will last many months in a well-corked bottle.

(*f*)

TO MAKE TINCTURE OF GINGER.

Take of

Ginger Root, sliced small .	1½ ounce,
Strong Spirit . . .	1 pint.

Shake well; put by for fourteen days; then filter and it will be fit for use.

* The way to make a filter is described in a Note in page 285.

About twenty-two, or twenty-three drops of laudanum contain one grain of opium.

CHAP. 12.—OINTMENTS.

(*a*)

TO MAKE SULPHUR OINTMENT.

Take of

Sublimed Sulphur . .	3 ounces,
Prepared Lard . . .	half a pound.

Mix them well.

(*b*)

TO MAKE A STRONG ITCH OINTMENT.

Take of

Sulphur Ointment . .	1 ounce,
*Strong Nitrate of Mercury Ointment . . .	1 ounce,
White Cerate . . .	½ an ounce.

A strong itch ointment is thus made which seldom fails to cure the most virulent form of itch in a few days. It should be applied always to the eruption, and to the feet night and day. See pages 80 and 118.

(*c*)

TO MAKE CAMPHORATED OIL.

Take of

Camphor	½ an ounce,
Olive Oil . . .	2 fluid ounces,

Dissolve the camphor in the oil.

N. B. This is a useful liniment for pains in the arms, legs, or fleshy parts of the body.

* Diluted nitrate of mercury ointment is made by adding equal parts of strong nitrate of mercury with white cerate ointment.

(*d*)

TO MAKE HARTSHORN AND OIL.

Take of

Hartshorn (solution of ammonia) 1 ounce,
Olive Oil . . . . 2 ounces,

Shake them well together to form a white liniment.

N. B. This is useful to rub on the throat for common sore throat, and also to rub on joints and flesh in old-standing rheumatism.

CHAPTER 18.

A TABLE OF USEFUL COMPOUND MEDICINES AND THEIR APPROPRIATE DOSES.

The vehicle in which the Medicine is to be given.	APERIENTS.		From	To
In a little thick gruel or jelly.	CALOMEL	grains	3	5
	JALAP	grains	10	20
	POWDERED GINGER . .	grains	2	4
Ditto.	CALOMEL	grains	3	5
	POWDERED SCAMMONY .	grains	5	8
	" JALAP . .	grains	6	12
	" GINGER . .	grains	2	4
In gruel, milk, barley-water, or rice-water.	CALCINED MAGNESIA .	grains	10	20
	SUBLIMED SULPHUR .	grains	60	120
	POWDERED RHUBARB .	grains	10	20
In gruel, milk, barley, or rice-water, arrow-root, or jelly.	CALCINED MAGNESIA .	grains	10	20
	POWDERED SCAMMONY	grains	5	8
	POWDERED JALAP . .	grains	10	20
In water, gin-and-water, or ginger-tea.*	CREAM OF TARTAR .	drachm	½	1
	POWDERED SCAMMONY .	grains	5	8
	POWDERED RHUBARB .	grains	8	10
To be mixed well together and made into a powder.				
Ditto.	CASTOR OIL	ounce	½	1½
	CALCINED MAGNESIA .	grains	10	20
Mix the magnesia with a glass of water and then add the oil.				
Ditto.	OIL OF TURPENTINE .	ounce	½	1½
	CASTOR OIL	ounce	½	1½
Mix the oils well in a phial, or open glass before pouring them out.				

* Ginger-tea is easily made by pouring boiling water on grated ginger, keeping it covered and waiting till the fluid cools.

FEBRIFUGE MEDICINES,

The vehicle in which the Medicine is to be given.	*To increase Perspiration and dispel Feverishness.*		From	To
In water, or thin barley-water.	ANTIMONIAL WINE . .	drops	7	20
Ditto.	ANTIMONIAL WINE .	drops	7	20
	TINCTURE OF HENBANE	drops	10	30
In thin barley-water, or ginger-tea.	IPECACUANHA POWDER	grain	½	1
	JAMES'S POWDER . .	grains	1	2
Ditto.	*COMPOUND IPECACUANHA POWDER . . .	grains	10	20
	JAMES'S POWDER . .	grains	1	2
Mix them well together.				
Ditto.	SWEET SPIRIT OF NITRE	drops	50	60
	TINCTURE OF HENBANE	drops	20	25
	ANTIMONIAL WINE .	drops	7	15
In ginger-tea.	OIL OF PEPPERMINT .	drops	1	2
	OIL OF TURPENTINE .	drops	3	5

COUGH MEDICINES

May consist of a dose of febrifuge medicines at night and an aperient dose in the morning, or

In a little camphor julep, barley-water, or ginger-tea.	TINCTURE OF SQUILLS .	drops	15	25
	SWEET SPIRIT OF NITRE	drops	50	60
	LAUDANUM,	drops	15	20
	OR		or	
	ACETATE OF MORPHIA	grain	¼	½
Mix them and give the dose at bed time.				

EXTERNAL APPLICATION FOR COUGH.

	OIL OF TURPENTINE .	ounce	½
	SOLUTION OF AMMONIA, (HARTSHORN)	ounce	½
	OIL OF OLIVES	ounce	1½

Mix them in a phial and shake them well, then rub the throat and chest well and cover both with flannel.

* 'Compound Ipecacuanha Powder' is commonly known by the name of 'Dover' powder.'

CHAPTER 14.

A TABLE OF SIMPLE DRUGS AND THEIR DOSES.

DRUGS.	Effects.		From	To
CALOMEL	alterative & aperient	grains	3	5*
MAGNESIA (CALCINED)	aperient	grains	6	15
EPSOM SALTS	aperient	drachms	4	15
CASTOR OIL	aperient	ounce	½	1½
SENNA POWDER	aperient	drachms	1	2
SCAMMONY POWDER	aperient	grains	6	10
JALAP POWDER	aperient	grains	10	20
RHUBARB	aperient	grains	10	20
EXTRACT OF COLOCYNTH	aperient	grains	5	15
GAMBOGE POWDER	aperient	grains	3	8
CREAM OF TARTAR	aperient	drachm	½	1
BLUE PILL	alterative & aperient	grains	5	10
COMPOUND ALOE PILL	aperient	grains	5	10
COMPOUND RHUBARB PILL	aperient	grains	5	10
OIL OF TURPENTINE	aperient	drachms	4	8
	diuretic (to increase the quantity of urine)	drops	3	5
ANTIMONIAL WINE	sudorific	drops	7	15
	or vomit	drachms	4	12
TINCTURE OF HENBANE	sedative	drachm	½	1
TINCTURE OF SQUILLS	diuretic or sudorific	drops	15	25
SWEET SPIRIT OF NITRE	diuretic or sudorific	drops	60	80
DOVER'S POWDER	diuretic or sudorific	grains	10	20
JAMES'S POWDER	diuretic or sudorific	grains	1	2
IPECACUANHA POWDER	diuretic or sudorific	grain	½	1
MERCURY WITH CHALK	alterative	grains	5	15
CARBONATE OF SODA	antacid or alkaline	grains	30	60
CARBONATE OF POTASH	antacid and diuretic	grains	10	15
BALSAM OF COPAIBA (to be taken with twenty grains of calcined, or carbonate of magnesia.	for clap or worms	drachms	½	1½
SULPHATE OF QUININE, (to be taken with thirty drops of elixir, or diluted vitriol in water	tonic	grains	1	2
MURIATED TINCTURE OF IRON	tonic	drachm	½	1
OIL OF JUNIPER (in ginger-tea)	diuretic	drops	2	4
LAUDANUM	sedative	drops	15	30
ACETATE OF MORPHIA	sedative	grain	¼	½
SAL VOLATILE	stomachic	drachm	½	1
CONFECTION OF SENNA	aperient	drachms	4	8
ELIXIR VITRIOL	tonic	drops	30	50
SOLUTION OF POTASH	antacid and diuretic	drops	15	25
SUBLIMED SULPHUR	aperient	drachms	1	3
OPIUM IN POWDER	sedative	grains	½	2
CREAM OF TARTAR	aperient	drachms	2	3
OIL OF CLOVES	stomachic	drops	1	2
CAMPHOR	stimulant	grains	5	15

* In Tropical fevers from twenty to thirty

LIST OF MEDICAMENTS.

APERIENTS, OR PURGATIVE MEDICINES.

Senna leaves, see page 281
Senna leaves in powder
Ginger root
Tincture of senna, see page 289
Epsom salts
Scammony in powder
Jalap in powder
Rhubarb
Cream of tartar (supertartrate of potash)
Compound extract of colocynth
Blue pill in mass
Calomel
Compound aloes pill
Compound rhubarb pill
Liquorice juice
Castor oil
Oil of turpentine see pages 171, 262
Carbonate of magnesia (magnesia)
Carbonate of Soda
Calcined magnesia
Carbonate of potash (subcarbonate of potash)
Confection of senna, see pages 126, 293

STOMACHICS.

Tincture of ginger
Oil of cloves
Oil of caraway
Oil of peppermint
Camphor
Cloves
Sal volatile (spirit of ammonia)
Chalk powder, see page 235

TONICS.

Orange peel
Lemon peel
Gentian root
Cascarilla root
Muriated tincture of iron
Meadow-saffron seed, or tincture, see page 288
Hops
Buchu leaves, see page 284
Hydriodate of potass
Extract of gentian
Carbonate of iron, see page 246
Sulphate of quinine, see pages 225, 257
Oil of vitriol (sulphuric acid) see page 32, 157, 158*
Elixir vitriol
Nitric acid
Carbonate of ammonia see pages 237, 240
Muriatic acid
Powder of mercury with chalk
Extract of sarsaparilla to make decotion

SUDORIFICS, TO CREATE PERSPIRATION, OR VOMITING.

Tartarized antimony (to be used for making antimonial wine) see page 285.
Ipecacuanha powder
Solution of ammonia, (hartshorn) to be used externally see page 292
Tincture of squills, see pages 241, 292
Tincture of iodine,† or iodine, see page 44,
James's powder, see pages 230, 254, 256, 292
Dover's powder (compound ipecacuanha powder) see pages 227, 230
Sweet spirit of nitre

* Diluted vitriolic acid, called, also, 'diluted sulphuric acid,' is made by adding, gradually, a fluid ounce and half of oil of vitriol (strong sulphuric acid) to fourteen fluid ounces and half of distilled water.

† Tincture of iodine is made by dissolving thirty-six grains of iodine in an ounce of strong spirit of wine.

TO ACT ON THE KIDNEYS AND BLADDER AND TO LULL PAIN.

Opium,—laudanum, see page 288.
Solution of potash (liquor potassæ)
Gum Arabic
Extract of henbane
Extract of buchu
Extract of uva ursi page 162
Pearl barley
Linseed
Acetate of morphia, see pages 126, 152, 215, 217, 292

N. B. The same medicines act sometimes on the skin, sometimes on the kidneys, sometimes on the bowels.

Uva ursi, is sometimes put alone, when it signifies extract of the same as in page 140.

Tartarized antimony is ordered to be given in as large doses as possible to occasion nausea, as in page 98: the most convenient form is always in the wine of antimony, see page 285.

REMEDIES FOR EXTERNAL APPLICATION.

Blue stone (sulphate of copper) so called in pages 138, 273
Lunar caustic (nitrate of silver)
Caustic potass
Olive oil
Camphorated oil page290
Nitrate of mercury ointment
Strong mercury ointment
Savine ointment (to keep open blisters)
Sulphate of zinc (white vitriol)
Blister ointment to make blisters, to be spread on plaster, or leather (fire destroys its power)
Flowers of zinc
Acetate of zinc
Salt petre
White cerate ointment
Sublimed sulphur to make itch ointment, page 290
Leeches
Eau de luce, see pages 59, 63, 287, for bites of insects and serpents
Vinegar, see page 157

EXTRAS.

Silver catheters see page 167
Apparatus for reducing dislocations, see pages 186, 190
White arsenic in powder*
Fowler's solution of arsenic, see page 287
Balsam of Copaiba
Gruel grits
Surgical dressing case
Lancet case
Adhesive plaster
Lint
Rupture trusses
Suspensory bandages (for the scrotum)
Syringe (small pewter)
Flannel rollers
Linen bandages, or rollers
Paste-board splints, see pages 193, 195, 200, 203, 205, for thighs, legs and arms
Long wooden splints for thighs, legs and arms, see pages 194, 199, 203, 205
Double inclined plane see page 197
Clyster syringe
Bandage for fracture of the collar bones, to keep the arms back, like ladies' braces at boarding school †
Tape, twine and silk
Test glasses, see page 272
Filters, blotting paper
Common clear eating oil
Flask, or small retort, see pages 274, 279
Glass rod to stir liquids
Spirit of wine
Spirit lamp, page 274
Sulphuret of antimony see page 273
Honey

* This can only be required to make Fowler's solution, except in hydrophobia, page 72.

† When a collar bone is fractured all that is required is to keep the shoulders well back and so confined; this is done by a bandage round and under each arm crossing on the back in the figure of ∞; then putting the hand in a sling and bandaging the upper arm to the body, to keep it steady and prevent its going back, and thus driving the shoulder forward.

TABLE OF WEIGHTS AND MEASURES.

In compounding Medicines the table of weights to be employed is the following ;*

TROY WEIGHT.

20 grains make . . . 1 scruple,
3 scruples make . . 1 drachm,
8 drachms make . . 1 ounce,
12 ounces make . . 1 pound.

Grains		Scruples		Drachms		Ounces		Pound
20	make	1		0		0		0
60	"	3	make	1		0		0
480	"	24	"	8	make	1		0
5760	"	288	"	96	"	12	make	1

AVOIRDUPOIS WEIGHT.

$27\frac{34}{100}$ grains make . . . 1 drachm
16 drachms make . . 1 ounce,
16 ounces make . . . 1 pound.

Grains		Drachms		Ounces		Pound
$27\frac{34}{100}$	make	1		0		0
$437\frac{1}{2}$	"	16	make	1		0
7000	"	256	"	16	make	1

* It is of importance to remember that the TROY WEIGHT is used in compounding medicine, and the AVOIRDUPOIS WEIGHT in purchasing; wherefore in making medical preparations all the articles require to be carefully weighed previous to using.

In measuring liquids the *wine gallon* is thus divided:

60 minims, or drops make	1 fluid-drachm
8 fluid-drachms make	1 fluid-ounce,
16 fluid-ounces make	1 pint,
8 pints make	1 gallon.

* Thus a gallon contains,

Gallon	Pints	Fluid-ounces	Fluid-drachms	Minims, or drops†
1	8	128	1024	61440
0	1	16	128	7680
0	0	1	8	480
0	0	0	1	60

ON PRESERVING VEGETABLES

When vegetables are to be collected and kept for purposes of medicine they should be gathered on a dry day. Then dried over stones heated by steam, at any temperature from 110° to 200° (Fahrenheit);

* It will be found that the gallon contains ten avoirdupois pounds of distilled water at about 60° (Fahrenheit) and will weigh 70,000 grains.

† A drop ill expresses the measure of a minim, for alcohol from a fine-mouthed bottle will be found to supply nearly two drops to one minim. Wherefore, it is proper always to use the graduated glass when any important medicine is directed to be given.

Strong alcohol may be made by filling a common bladder with spirit of wine, tying it closely, and hanging it before a fire to evaporate, by which means the water will escape and pure spirit will remain.

the heated air and vapour from the vegetables may be allowed to escape by holes made in the top of the drying stove.

When perfectly dried they may be put by in closely covered jars, and will thus retain their medical properties for many months, sometimes even for years.

Roots may be preserved in the same manner, but will be more conveniently dried if cut up in slices.

THE END.

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